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Pearson, O.P.

1955

Catalogue

\* 4037 - 4368

Peru, Bolivia  
and Argentina



O. P. Pearson  
1955

Peru, Bolivia, Argentina  
catalog + journal



Pearson  
1955

catalog

August 5

Maña, 2200 ft, Dept. of Lima Peru.

NOV 21 2023 4037 *Logidium?*

Bones and scale found on slope growing to *Tillandsia*,  
see off line account.

August 6

MUZ  
120065 4038 ♂ *Phyllotea darwini limatula*

pale vegetal within shrubs, testis 9 mm  
 $258 \times 144 \times 26 \times 27$  SV large

1 mi. E. Santa Engracia, 4000 ft, Dept. Lima,

MUZ  
120074 4039 ♀ " *limatula*

$208 \times 114 \times 26 \times 25$  no emb.

MUZ  
119993 4040 ♀ " *andicola*

$174 \times 91 \times 22 \times 23$  no emb.

✓ 4041 ♀ " *darwini limatula*

$243 \times 132 \times 26 \times 27$  4 emb.

✓ 4042 ♂ " "

$234 \times 124 \times 26 \times 27$  testis 10 mm

✓ 4043 ♂ " "

$244 \times 134 \times 26 \times 27$  testis 9 mm

✓ 4044 ♂ " "

$189 \times 104 \times 25 \times 24$  testis 2 mm

station 5200 (Tornavera)

1 mi. E. San Bartolome, ~~4800 ft~~, Dept. of Lima, Peru

August 7

4045 ♀ <sup>juv. sp</sup>

$269 \times 140 \times 32 \times 22$  <sup>inf. 2 yrs</sup> no emb.

1 mi. E San Bartolome, <sup>station 5200 ft.</sup> ~~4800~~

Aug. 8  $246 \times 128 \times 27 \times 26$  <sup>lying deep on</sup> <sup>root at bottom</sup> <sup>ear 23 mm</sup> <sup>of cliff within 6 ft.</sup>

✓ 4046 ♀ *Ph. darwini limatula*

DOR as above

✓ 4047 ♂ " " juv.

$140 \times 66 \times 21 \times 17$

DOR as above.

[4048] ♀ " "

$138 \times 64 \times 21 \times 16$  not saved.

1 mi. W Matucana, 6500 ft, Dept. of Lima

On slope. Ear

4049 ♂ *Ph. andicola*

$221 \times 115 \times 26 \times 21$  leafy, 17 mm across,  
look bigger than 21. testis 8 mm.

on slope, ear 18 mm

4050 ♂ "

$200 \times 105 \times 26 \times 22$  testis 6 mm.

on slope, ear 18 mm

4051 ♂ "

$218 \times 115 \times 26 \times 21$  testis 9 mm.

along wall, perennial grass

4052 ♂ *Oxygonys*

$236 \times 116 \times 30 \times 20$  <sup>inf. 2 yrs</sup> <sup>valley floor</sup>  
testis 4 mm



P. PEARSON  
1955

3 mi. E Matucana, 8200 ft., Dept. of Lima

Aug. 11

4053 ♂ *Phyllotis andinus*

orange-brown in ears plus bumpers.

228 x 117 x 26 x 23 testes 9

4054 ♀ *Marmosa*

orange with 189 x 98 x 15 x 21 no embryo

San Antonio, 9500 ft., Dept. of Lima, Peru

Aug. 11

4055 ♂ *Oryzopsis*

202 x 115 x 23 x 15 testes 6

4056 ♂ *Abrothrix*

134 x 58 x 19 1/2 x 10

4057 ♂ *Phyllotis andinus*

225 x 115 x 26 x 23 testes 2 mm 50% fat

4058 ♀ " "

193 x 101 x 24 1/2 x 21 no embryo

4059 ♀ " "

220 x 114 x 26 x 23 ear 18 across v6 adult but no embryo

4060 ♂ " "

206 x 109 x 25 x 22 testes 2 mm ear 17 across

4061 ♂ " "

206 x 106 x 25 x 22 testes 4 1/2, 5 v6 small ear 17 across

4062 ♀ " "

188 x 96 x 24 x 19 no embryo.

4 mi. E Chosica, 3500 ft., Dept. of Lima, Peru

Aug. 12

4063 ♀ *Phyllotis darwini darwini* 265 x 148 x 26 x 25 ear 23 across lactating, no embryo, tail OK

4064 ♂ " " 238 x 126 x 26 x 26 " 24 " testes 10 mm tail OK

4065 ♂ " " 234 x 124 x 26 x 24 " 22 " testes 9 mm tail OK

4066 ♂ " " 240 x 132 x 26 x 26 " 24 " 5 v6 smallish testes 7 mm tail OK

4067 ♂ " " 236 x 129 x 25 x 26 " 23 " testes 11 mm tail OK

Riobamba Valley, 4400 ft., Dept. of Lima, Peru

4068 ♂ *Phyllotis darwini darwini* 266 x 146 x 27 x 26 ear 23 across testes 12 mm tail OK

4069 ♀ " " 229 x 126 x 26 x 26 " 23 " 4 embryo tail OK

4070 ♀ " " 233 x 124 x 26 x 27 " 23 " 3 embryo

4071 ♂ " " 234 x 126 x 25 x 25 " 20 " testes 9 mm tail OK

4072 ♂ " " 226 x 125 x 26 x 26 " 21 " 5 v6 small testes 6 mm tail OK



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1955

|   |     |   |
|---|-----|---|
| - | ♀ " | $[217] \times [95] \times 25 \times 26$ ear 20 across |
| - | ♂ " | $[226] \times [117] \times 26 \times 26$ " 23 "       |
| - | ♀ " | $224 \times 117 \times 25 \times 25$ " 22 "           |
| - | ♂ " | $212 \times 112 \times 25 \times 24$ " 22 "           |

1 mi. E San Bartolome ~~4,000 ft.~~ <sup>station 5200</sup> Dept. of Lima, Peru

4073 ♀ *Oryzopsis fantheroides*  $214 \times 104 \times 27 \times 19$  no emb.

4074 ♀ "  $195 \times 102 \times 26 \times 14$

4 mi. E. Chosica, 3500 ft., Dept. of Lima, Peru

4075 ♀ *Phyllotis darwini* *lividus*  $[202] \times [84] \times 26 \times 27$  <sup>lact, no emb.</sup> <sub>ear 22 across</sub>

4076 ♀ " "  $260 \times 138 \times 26 \times$  - - Huge vaginal plug. <sup>tail OK</sup>

~~Villanueva~~, 12,200 ft. (between Rio Blanco + Casapalca), Dept. of Lima,

Aug. 13

4077 ♀ *Phyllotis auduboni*  $246 \times 128 \times 25 \times 23$  <sup>no emb.</sup> <sub>ear 17 across</sub>

4078 ♂ "  $239 \times 123 \times 26 \times 22$  Testis 10 mm

4079 ♂ " "  $212 \times 115 \times 26 \times 22$  <sup>testis 5 mm</sup> " 16 "

4080 ♀ " "  $205 \times 109 \times 24 \times 21$  " 16 " <sup>no emb.</sup>

4081 ♀ " "  $225 \times 123 \times 25 \times 21$  " 17 " <sup>no emb.</sup>

4082 ♀ " "  $216 \times 119 \times 25 \frac{1}{2} \times 21$  " 17 " <sup>testis 3 mm</sup>

4083 ♂ " "  $219 \times 119 \times 26 \times 22$  " 17 "

4084 ♀ " "  $204 \times 107 \times 26 \times 22$  " 16 " <sup>no emb.</sup>

4085 ♀ *Hesperomys*  $162 \times 72 \times 20 \times 19$  no emb.

4086 ♀ "  $137 \times 61 \times 18 \times 17$

4087 ♀ "  $145 \times 63 \times 19 \times 18$

4088 ♀ *Akodon*  $165 \times 64 \times 18 \times 12$



D. P. PEARSON  
1955

<sup>14,000 ft.</sup>  
1 mi. E Casapalca, Dept. of Lima, Peru

Aug. 14

|   |   |
|---|---|
| 4089 ♂ <i>Hesperomys</i>                  | 138 × 61 × 20 × 18                                |
| 4090 ♂ "                                  | 117 × 39 × 19 × 18                                |
| 4091 ♂ <i>Neotomys ehricism</i>           | 188 × 70 × 24 × 19 - testis 9 mm<br>lost, no emb. |
| 4092 ♀ <i>Phyllotis darwini posticola</i> | 245 × 125 × 27 × 28 ear 21 across                 |
| 4093 ♂ "                                  | 230 × 115 × 26 × 25 " 19 " testis 10,5 mm long    |
| 4094 ♂ "                                  | 228 × 110 × 28 × 25 " 18 " testis 10              |
| 4095 ♂ "                                  | 228 × 111 × 27 × 24 " 19 " testis 10              |
| 4096 ♀ "                                  | 226 × 116 × 27 × 25 " 20 " 2 emb.                 |
| — ♀ "                                     | 238 × 112 × 27 × 26 " 21 " paramy.<br>no emb.     |

1 1/2 mi. W Casapalca, 13,200 ft., Dept. of Lima, Peru

Aug. 15

|   |   |
|---|---|
| 4097 ♂ <i>Akodon jelskii</i>              | 161 × 66 × 23 × 16  |
| 4098 ♀ <i>Phyllotis darwini posticola</i> | 248 × 127 × 27 × 24 60 gms post-testes.<br>ear 19 across      |
| 4099 ♂ "                                  | 252 × 126 × 28 × 25 " 19 " 52 gms<br>testes 11 mm             |
| 4100 ♀ "                                  | 240 × 124 × 27 × 26 " 20 " 45 gms<br>paramy. post-test.       |
| 4101 ♀ <i>Phyllotis posticola</i> ?       | 210 × 109 × 26 × 24 " 18 " no emb.                            |
| 4102 ♀ " <i>auduboni</i>                  | 212 × 112 × 24 1/2 × 20 " 16 " but paramy.<br>testes 7 mm     |
| 4103 ♂ "                                  | 213 × 114 × 25 × 20 " 16 " 33 gms                             |
| 4104 ♀ "                                  | 217 × 119 × 26 × 20 " 16 " 31 gms<br>no emb., uterine<br>gum. |
| 4105 ♂ "                                  | 207 × 110 × 26 × 21 " 16 " 29 gms.<br>Testes 4 mm.            |
| — ♂ "                                     | 208 × 109 × 25 × 20   |

1 mi. W. Casapalca, 13,200 ft.

|   |  |
|---|--|
| 4106 ♂ <i>Phyllotis darwini lintoni</i> | 216 × 114 × 27 × 26 " 20 " testis 9 mm |
| 4107 ♀ <i>Hesperomys</i>                | 146 × 68 × 19 × 16                     |



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1½ mi. W Casapalca, 13,200 ft.; (cont.)

4108 ♀ *Phyllotis darwinii postostalis*

U.G. immature 22 gms.  
195 x 101 x 25 x 23 ear 18 auroz.

Minacaca, 13,500 ft., Dept. of Pasco, Peru

Aug. 17

4109 ♂ *Hesperomys*

in max. wound. Testis 8, 5V large  
118 x 41 x 18 x 19 18 gms

4110 ♀ *Phyllotis pictus*

179 x 74 x 25 x 23 no emb.

4111 ♀ " "

174 x 71 x 24 x 23

4112 ♀ Miner

27 gms. small follicles. skull short

10 mi. NE Cerro de Pasco, 13,000 ft., Dept. of Pasco, Peru

Aug. 18

4113 ♀ *Hesperomys ebriosus*

191 x 75 x 23 x 17 3 emb

4114 ♂ *Abrodon jelskii*

179 x 67 x 23 x 18 testis 8 mm

4115 ♀ *Hesperomys*

126 x 56 x 18½ x 17 no emb

4116 ♀ *Abrodon*

163 x 67 x 20 x 12 no emb

4117 ♀ *Oryzomys*

193 x 114 x 21½ x 15 no emb.

Culbrey, 13,500 ft., 15 mi. NE Canta, Dept. of Lima, Peru

Aug. 20

4118 ♂ *Hesperomys?*

147 x 69 x 19½ x 19 testis 8 mm

4119 ♀ "

154 x 64 x 19 x 19 post-lact.

Huaraz, 12,000 ft., Dept. of Huaraz, Peru

Aug. 21

4120 ♂ *Phyllotis andinus*

215 x 113 x 26 x 23 ear 18 auroz. testis 4 mm

4121 ♀ " "

232 x 121 x 26 x 23 " >17 "

below Huaraz, 11,500 ft., Dept. of Huaraz

4122 ♂ *Phyllotis andinus*

204 x 106 x 26 x 22 ear 15 auroz. testis 5 mm

4123 ♂ ? *Oryz?*

210 x 112 x 23½ x 14 testis 4 mm

4124 ♀ *Hesperomys*

151 x 66 x 18 x 18 5 emb.



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1955

3 mi. W Huaro, 11,300 ft., Dept. of Junin, Peru

Aug. 21, 1955

|      |   |                         |  |                             |
|------|---|-------------------------|--|-----------------------------|
| 4125 | ♂ | <i>Phyllotis andium</i> | 220 $\times$ 116 $\times$ 25 $\times$ 22 | ear 16 across<br>testes 3   |
| 4126 | ♂ | " "                     | 217 $\times$ 114 $\times$ 25 $\times$ 22 | ear 18" testes 5 "          |
| 4127 | ♀ | " "                     | 225 $\times$ 122 $\times$ 25 $\times$ 23 | no ear. " 18" <i>parvus</i> |
| 4128 | ♂ | " "                     | 212 $\times$ 107 $\times$ 26 $\times$ 22 | testes 5 "                  |
| 4129 | ♂ | " "                     | 212 $\times$ 113 $\times$ 24 $\times$ 21 | testes 3 "                  |

1 mi. W Canta, 8800 ft., Dept. of Junin, Peru

Aug. 22

|      |   |                         |  |                                     |
|------|---|-------------------------|--|-------------------------------------|
| 4130 | ♂ | <i>Phyllotis andium</i> | 212 $\times$ 112 $\times$ 26 $\times$ 22 | ear 16 across<br>testes 9, 5V large |
| 4131 | ♂ | " "                     | 222 $\times$ 110 $\times$ 26 $\times$ 22 | testes 9, 5V large<br>" 17 "        |
| 4132 | ♂ | <i>Hesperomys</i>       | 144 $\times$ 61 $\times$ 18 $\times$ 18  |                                     |
| 4133 | ♂ | <i>Marmos alegans</i>   | 205 $\times$ 107 $\times$ 16 $\times$ 24 |                                     |
| 4134 | ♀ | " "                     | 184 $\times$ 92 $\times$ 15 $\times$ 22  | no ear.                             |

2 mi. E. Chocas, 2000 ft., Chillon Valley, Dept. of Junin

Aug. 23

|      |  |   |
|------|--|---|
| 4135 | Foto of dog dropping picked up in Tillandsia |   |
| 4136 | ♀ <i>Phyllotis amicus</i>                    | [139] [48] $\times$ 22 $\frac{1}{2}$ $\times$ 24 $\times$ 19 <sup>multipl.</sup> across<br>stomach with greenish brown vegetal matter |

1 mi. E. San Bartolomé, 5200 ft., Dept. of Junin, Peru

Aug. 24

|      |                                     |  |                                     |
|------|-------------------------------------|--|-------------------------------------|
| 4137 | ♂ <i>Phyllotis darwini lineatus</i> | 241 $\times$ 131 $\times$ 27 $\times$ 27 | ear 22 across<br>testes 8, 5V small |
| 4138 | ♀ " " " <i>jim.</i>                 | [94] [7] $\times$ 25 $\times$ 23         | " 19 " no ear                       |
| 4139 | ♂ <i>Phyllotis andium</i>           | 200 $\times$ 106 $\times$ 25 $\times$ 20 | " 16 " no ear.                      |

1 mi. W Surco, 6000 ft., Dept. of Junin, Peru

|      |                            |  |                      |
|------|----------------------------|--|----------------------|
| 4140 | ♂ <i>Phyllotis darwini</i> | 206 $\times$ 110 $\times$ 25 $\times$ 24 | ear 20 across no ear |
| 4141 | ♀ " <i>amicus</i>          | 212 $\times$ 114 $\times$ 23 $\times$ 24 | " 19 " 4 ear         |
| 4142 | ♀ " "                      | 204 $\times$ 105 $\times$ 22 $\times$ 22 | " 18 " post-lact.    |
| 4143 | ♀ " "                      | 201 $\times$ 106 $\times$ 22 $\times$ 23 | " 19 " 3 ear.        |



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1955

4144 ♀ *Phyllotis amplus*

$204 \times 110 \times 23\frac{1}{2} \times 22$  ear 18 across 3 bands

4145 ♀ " "

$201 \times 103 \times 22 \times 22$  " 19 " 3 bands

4146 ♂ *Oryzopsis*

$179 \times 92 \times 24\frac{1}{2} \times 18$  testes 4 mm

near 2200 ft., Dept. of Lima, Peru

Aug. 26

4147 ♂ *Phyllotis darwini lineatus* testes 5 mm, SV small  
 $255 \times 139 \times 27 \times 27$  ear 23 across.

(25 mi. NW Puente Alcomachay)

Rio Mantaro, 8500 ft., Dept. of Huanuco, Peru

Aug. 29

4148 ♀ *Phyllotis*

no ear. Plantain leaves present. Bones + muscle pink  
 $247 \times 128 \times 27 \times 25$  ear 20 across

4149 ♀ melanonyx?

$170 \times 77 \times 23 \times 14$  no ear.  
bones + muscle pink. no ear.

4150 ♂ *Phyllotis*

$189 \times 95 \times 25\frac{1}{2} \times 23$  ear 18 across

4151 ♀ *Hesperomys*

$162 \times 80 \times 19 \times 18$  testes, no ear -  
9500 ft.

2 mi. S Ayacucho, Dept. of Huanuco, Peru

Aug. 30

4152 ♂ *Phyllotis*

testes 4 mm, SV small  
 $248 \times 135 \times 29 \times 24$  ear 19 across

4153 ♂ "

testes 5 mm, SV small  
 $249 \times 139 \times 29 \times 24$  " 20 "

4154 ♀ "

$229 \times 127 \times 28 \times 24$  " 18 " SV large

~~5 mi. S~~

10 mi. NE Abancay 8000 ft., Dept. of Apurimac, Peru

Sept. 2

4155 ♂ *Hesperomys*

$195 \times 96 \times 21 \times 20$

4156 ♂ "

$163 \times 79 \times 18 \times 17$

Santa Rosa de Ayacucho, 12,800 ft., Dept. of Puno, Peru

Sept. 3

4157 ♂ *Phyllotis osburni*

$221 \times 113 \times 24 \times 22$  SV med  
testes 6 mm

4158 ♂ " "

$214 \times 110 \times 26 \times 22$  SV med  
testes 9 mm



O. P. PETERSON  
1955

20 mi. S. La Paz, 13,000 ft., La Paz, Bolivia  
Sept. 8

4159 ♂ *Phyllotis darwini* testes 10, SV large  
205 x 109 x 24 x 23 ear 19 across water 10  
4160 ♂ " " 237 x 133 x 26 x 26 " 19 " SV large water 10  
4161 ♂ " " 227 x 115 x 27 x 26 " 20 " SV large no ear  
4162 ♀ " " 216 x 112 x 24 x 25 " 19 "  
4163 ♂ *Phyllotis subflavus* (or *californicus*) 162 x 58 x 21 x 24 testes 9 gm  
4164 ♂ Mus [135] - [58] x 18 x 14 testes 5, SV small  
4165 ♂ *Hesperomys* <sup>chilensis</sup> 120 x 38 x 17 x 17 testes 7, SV large

2 mi. E. Oruro, 12,500 ft., Oruro, Bolivia  
Sept. 9

4166 ♀ *Ctenomys* 260 x 70 x 40 x no ear, no vocal.

20 mi. NE Oruro, 14,000 ft., Oruro, Bolivia

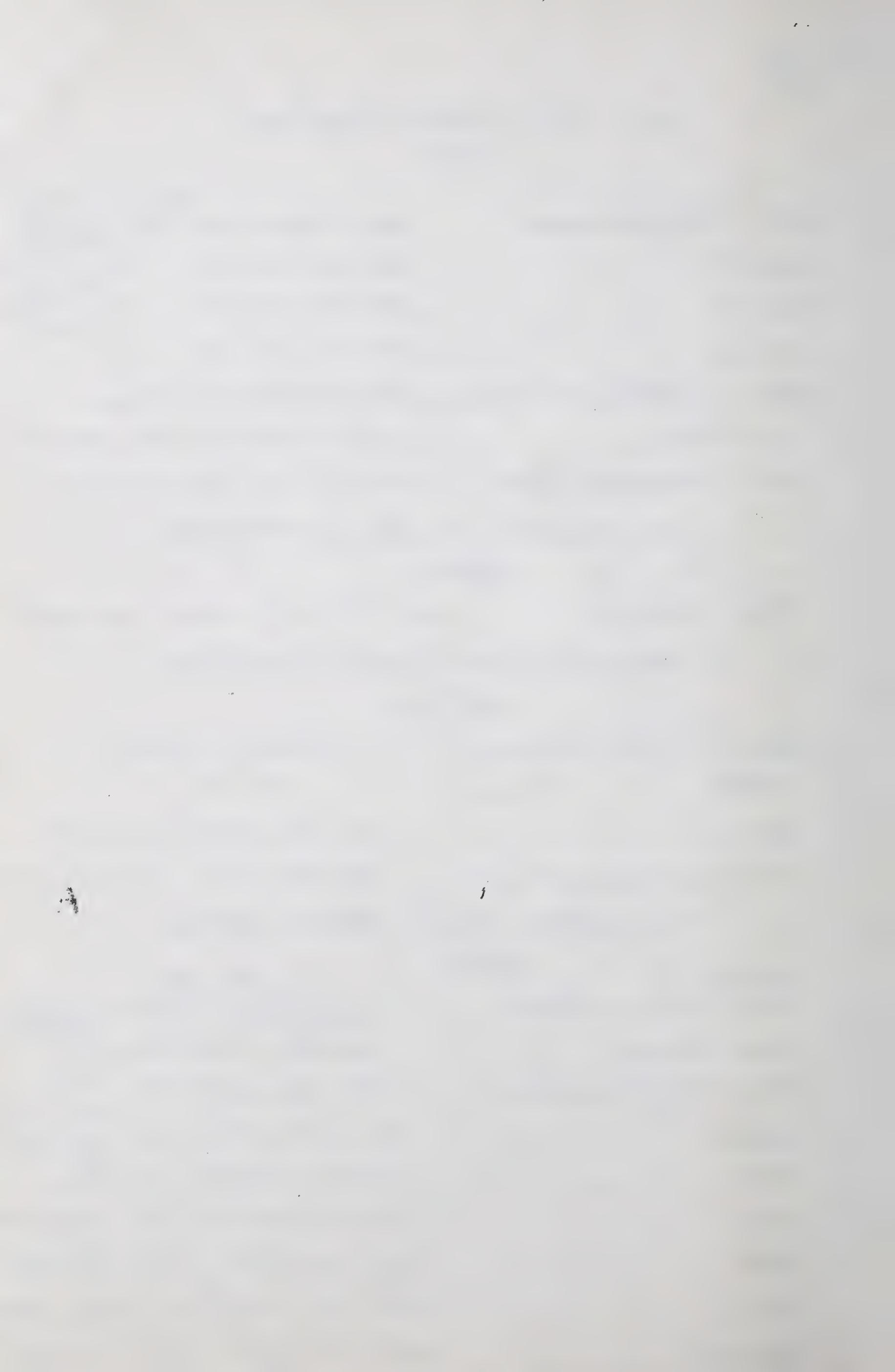
Sept 10

4167 ♂ *Phyllotis subflavus* picked for Ruler  
4168 ♀ " " "  
4169 ♀ " " 163 x 54 x 22 x 23 no ear.  
4170 ♀ *Hesperomys ducilla* 111 x 48 x 17 x 17 int. large, no ear.  
15 mi. E Tapacari, 9000 ft., Cochabamba, Bolivia

Sept. 11

SKELE. ONLY

4171 ? *Phyllotis wolffsohni* inserted in trap  
293 x 146 x 30 x 25 ear 20 across, testes 8, SV small with parotids  
273 x 140 x 31 x 25 64 gm fatless around ear 19 across lips.  
4172 ♂ *Sciurus*?  
4173 ♂ *Phyllotis wolffsohni* testes 6  
280 x 145 x 29 x 25 " 21 " 57 gm.  
70 gm no ear  
4174 ♀ " " 293 x 158 x 27 x 26 " 22 " vagina closed  
4175 ♂ " " 249 x 130 x 28 x 24 " 19 " 46 gm.  
4176 ♂ " " 270 x 123 x 28 x 23 " 18 " testes 4  
4177 ♂ " " 244 x 127 x 26 x 24 " 20 " 52 gm. testes 4  
4178 ♀ " ? 240 x 122 x 27 x 23 " 20 " 43 gm. no ear.  
4179 ♀ " " 225 x 114 x 26 x 23 " 20 " no ear.



O. P. PEARSON  
1955

4180 abdomen

187 x 83 x 23 x 18 33 gm testes

5 mi. W Comarapa, 7500 ft., Santa Cruz, Bolivia

Sept. 13

✓ 4181 ♂ *Phyllotis wolffsohni*

263 x 134 x 29 x 26 55 gm testes 5  
ear 20 acron

✓ 4182 ♂ " "

236 x 121 x 28 x 25 " 21 " 50 gm testes 3

✓ 4183 ♂ " "

239 x 123 x 27 x 25 " 20 " 52 gm testes 5

✓ 4184 ♂ " "

253 x 132 x 27 x 25 " 21 51 gm testes 6

4185 ♂ *Microtus*

218 x 137 x 23 x 15

4186 ♀ abdomen

310 x 132 x 30 x 25 no emb.

✓ 4187 ♀ *Phyllotis wolffsohni*

255 x 125 x 27 x 24 no emb. in forest

4188 ♂ abdomen?

218 x 94 x 24 x 21

body eaten. Buff collar. in forest

(SKULL ONLY) 4189 ♂ *Phyllotis wolffsohni*

245 x 120 x 27 x -

in forest

SKULL ONLY 4190 " "

248 x 126 x 28 x -

anteater. no emb.

4188 ♂ abdomen?

Colls darker than 4181-4184 but with  
buffy collar.

20 mi. E Totora, 9700 ft., Cochabamba, Bolivia

Sept. 14

4191 ♂ *Oryzopsis*?

180 x 71 x 21 x 15 no emb. long snout

4192 ♂ abdomen

166 x 75 x 21 x 15 testes 9 sv large

4193 ♂ *Oryzopsis*

192 x 116 x 25 x 15 testes 4 em

4194 Todd

pond at edge of cloud forest.

15 mi. ESE Tiquique (Tiquique Chico of A.G.S.), 10,500 ft., Cochabamba, Bolivia

Sept. 15

✓ 4195 ♂ *Phyllotis* var. ?

230 x 124 x 25 x 20 ear 20 39 gm  
brush, lower line. no emb. testes 4 cm

4196 ♀ "

225 x 124 x 24 x 20 " 17 31 gm  
brush, lower line testes 4 cm

4197 ♂ "

232 x 126 x 25 x 23 " 20 33 gm  
brush, lower line testes 4 cm

4198 ♂ "

222 x 118 x 25 x 22 " 19 33 gm  
grass, upper line, lower line

4199 ♀ "

[205] x [101] x 25 x 21 " 17 31 gm  
grass, upper line. no emb.

4200 ♀ "

252 x 133 x 25 x 22 " 18 46 gm



D. P. PEARSON  
1955

4201 ♀ *Phyllostrix osidai*?

4202 ♂ *Oxygasteris*

4203 ♂ *Akodona*

[4204] ♀ *Phyllostrix osidai*?

upper lip, gray - no emb.  
 $219 \times 120 \times 24 \times 20$  27 gm.  
upper lip, gray  
 $213 \times 87 \times 25 \times 16$  no emb.  
upper lip, gray  
 $152 \times 66 \times 19 \times 14$  Testes 5, SKINned  
upper lip, gray. Probable for Rinker  
 $215 \times 119 \times 25 \times 20$  ear 15 mm 26 gm.

10 mi. NE Potosí, 10,500 ft., Cochabamba, Bolivia

Sept. 16

4205 ♂ *Hesperomys*

4206 ♂ *Phyllostrix osidai*

4207 ♂ " "

4208 ♀ " "

4209 ♀ " "

4210 ♀ " *wolffsohni*

4211 ♂ " "

SKULL ONLY

4212 ? " *osidai*

trif. sets 1  
 $144 \times 64 \times 19 \times 15$  testes 5  
trif. sets 1  
 $230 \times 124 \times 26 \times 20$  ear 17 mm testes 6 36 gm.  
trif. sets 2 testes 4  
 $223 \times 122 \times 26 \times 20$  " 17 " 32 gm.  
trif. sets 2 no emb.  
 $198 \times 105 \times 24 \times 21$  " 16 " 25 gm.  
trif. sets 2 no emb.  
 $275 \times 143 \times 27 \times 26$  " 22 " 65 gm.  
trif. sets 2 testes 4 mm  
 $232 \times 120 \times 28 \times 25$  " 20 " 42 gm.

found dead, trif. sets 1.

8 mi. NE Potosí, 10,000 ft., Cochabamba, Bolivia

Sept. 16

4213 ♀ *Grammys*

4214 ♂ *Phyllostrix wolffsohni*

4215 ♀ " "

4216 ♀ " "

trif. sets 3 2 emb. rt. lorn  
 $263 \times 135 \times 27 \times 24$  ear 19 mm. 51 gm.  
trif. sets 3  
 $224 \times 114 \times 27 \times 24$  " 20 " testes 4, SKINning 49 gm.  
trif. sets 3 no emb.  
 $237 \times 118 \times 26 \times 24$  " 20 " 55 gm.  
trif. sets 4, no emb.  
 $235 \times 120 \times 26 \times 24$  " 20 " 41 gm.

40 mi. S Oruro, 12,000 ft., Oruro, Bolivia

Sept. 17

4217 ♂ *Marmosa*

$190 \times 107 \times 14 \times 21$

4218 ♂ *Phyllostrix darwini*

$204 \times 109 \times 25 \times 25$  ear 18 mm testes 3

4219 ♀ " "

$199 \times 104 \times 24 \times 24$  " 20 " no emb.

4220 ♂ *Akodona boliviensis*

$160 \times 72 \times 22 \times 13$  testes 4



J. P. PEARSON  
1955

5 mi. E. Uyuni, 13,000ft., Potosí, Bolivia

Sept. 20

|             |   |                            |                     |        |                           |
|-------------|---|----------------------------|---------------------|--------|---------------------------|
| 4221        | ♂ | <i>Phyllothis darwinii</i> | 208 x 108 x 24 x 24 | 37 gm  | testis 9, SV large        |
| 4222        | ♂ | " "                        | 208 x 115 x 24 x 23 | 33 g.  | testis 10 " 18 "          |
| 4223        | ♂ | " "                        | 215 x 115 x 24 x 25 | 35 g.  | testis 9, SV large " 20 " |
| 4224        | ♂ | " "                        | 203 x 103 x 23 x 23 | 33 g.  | testis 8, SV med. " 19 "  |
| 4225        | ♀ | " "                        | 200 x 104 x 23 x 25 | 23 g.  | no emb. " 21 "            |
| 4226        | ♂ | <i>Bolbomyz</i>            | 165 x 78 x 21 x 12  | 22 gm  | testis 8 SV large         |
| SKELE. ONLY |   |                            | 153 x 69 x 21 x 14  | 26 gm. |                           |
| 4227        | ♂ | "                          |                     |        |                           |

1 mi. E. Uyuni, 12,000ft., Potosí, Bolivia

|             |   |                    |                    |        |   |
|-------------|---|--------------------|--------------------|--------|---|
| 4228        | ♂ | <i>Elymroderus</i> | 155 x 70 x 22 x 18 | 17 gm. | testis 6 - SV med   |
| 4229        | ♂ | "                  | 148 x 70 x 23 x 18 | 18 gm. | testis 6 SV med.  |
| SKELE. ONLY |   | "                  | 135 x 67 x 23 x 17 | 14 gm. | with parasite<br>beetle in fur, but specimen had been in pocket with<br>wings of alone. Beetle send for review. |
| 4230        | ♀ | "                  |                    |        |   |

4 mi. E. Uyuni, 12,600ft., Potosí, Bolivia

Sept. 21

|      |   |                            |                     |                          |                             |
|------|---|----------------------------|---------------------|--------------------------|-----------------------------|
| 4231 | ♂ | <i>Phyllothis darwinii</i> | 222 x 117 x 26 x 25 | testis 10 gm<br>testis 9 | testis 10 gm<br>testis 9    |
| 4232 | ♂ | " "                        | 219 x 111 x 26 x 25 | " 21 "                   | 37 g.                       |
| 4233 | ♂ | " "                        | 189 x 98 x 24 x 23  | " 19 "                   | 23 g. testis 6, SV med.     |
| 4234 | ♀ | " "                        | 189 x 98 x 24 x 24  | " 20 "                   | 24 g. no emb., vaginal lge. |
| 4235 | ♂ | " "                        | 196 x 105 x 25 x 25 | " 21 "                   | 22 gm.                      |
| 4236 | ♂ | <i>Bolbomyz</i>            | 151 x 65 x 21 x 14  | testis 7, SV large.      | 26 gm.                      |

30 mi. WNW Cotagaita, 11,000ft., Potosí, Bolivia

Sept. 22, 1955

|  |   |                      |                     |                   |  |
|--|---|----------------------|---------------------|-------------------|--|
| 4237   | ♀ | <i>Braomyz</i>       | 248 [123] x 31 x 24 | no emb.           | 29/19 acran.                                       |
| <i>Yuracara, 20 mi. SSE Tarija, 10,600ft., Potosí, Bolivia</i> |   |                      |                     |                   |  |
| <u>Sept. 25</u>  |   |                      |                     |                   |  |
| 4238   | ♀ | <i>Octodonta myz</i> | 323 x 150 x 37 x 28 | no emb. rt; no cl | long bristling, 2 brist. left down + 2 cl left on, |
| 4239   | ♂ | <i>Hesperomyz</i>    | 152 x 78 x 20 x 17  |                   |  |



O. P. PEARSON  
1955

4230 ♀ *Spermophilus*

209 x [105] x 28 x 24 <sup>no eml.</sup> ear 19 avar.

4231 ♂ *Phyllotis darwini*

232 x 130 x 27 x 24 <sup>testis 3</sup> " 17 "

4232 ♀ *Spermophilus*

248 x 133 x 29 x 24 " 18 " <sup>no eml.</sup> flan.

5 mi. N Villazon, 11,500 ft; Potosi, Bolivia

Sept. 26

4233 ♂ *Phyllotis*

195 x 108 x 24 x 23 <sup>testis 5, SV small</sup> ear 19 avar.

4234 ♀ "

189 x 94 x 24 x 23 " 20 " <sup>no eml.</sup>

4235 ♂ *Bolomys*

154 x 64 x 21 x 13

4236 ♂ *Eligmodonta*

155 x 75 x 23 x 19 <sup>testis 8</sup>

4237 ♂ *Hesperomys*

130 x 52 x 15 x 18 <sup>testis 6, SV large</sup>

Tilcara, 8000 ft, 7500 ft, Zapata, Argentina

Sept. 29

4238 ♀ *Phyllotis* ~~cooperi~~

245 x 123 x 27 x 25 <sup>interadult, no eml.</sup> ear 19 avar.  
testis 10 mm, SV med-large

4239 ♂ " "

251 x 133 x 28 x 24 " 19 "

testis 11 mm, SV large.

4240 ♂ " "

249 x 133 x 27 x 25 " 19 "

4241 ♀ *Phyllotis* ~~des~~

220 x

1/2 mi. E Tilcara, 8500 ft, Zapata, Argentina

4241 ♀ *Phyllotis darwini*

220 x 114 x 25 x 26 <sup>no eml.</sup> ear 19 avar.  
testis 12, SV med-large <sup>testis 6</sup>

4242 ♂ " "

209 x 114 x 25 x 25 " 21 " SV small

4243 ♂ " "

225 x 117 x 26 x 26 " 21 " <sup>4</sup> <sup>testis 5</sup>

4244 ♂ " "

212 x 105 x 24 x 25 " 19 " <sup>testis 6</sup>

4245 ♀ " "

207 x 110 x 25 x 24 " — no eml.

4246 ♀ " "

195 x 104 x 24 x 23 " 20 " <sup>no eml.</sup>

4247 ♂ *abdom*

179 x 73 x 21 x 14 <sup>testis 7, SV med.</sup>

4248 ♀ *Phyllotis darwini*

201 x 108 x 24 x 23 <sup>not preg</sup> ear 19 avar.



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1955

Tilcara, 8000 ft, Jujuy, Argentina

Sept. 30, 1955

4249 ♂ *Phyllotea nogalaris* III.

testis II, SV med. green matter in stomach but corn used in mouth

4250 ♂ *Phyllotea capistrata*

258 x 135 x 28 x 26 " 21 "

4251 ♀ " "

241 x 129 x 27 x 24 " 19 " no emb.

4252 ♀ " "

214 x 116 x 27 x 24 " 20 " no emb.

Oct. 1

+ SKEL.

4253 ♀ *Phyllotea nogalaris*

260 x 118 x 28 x 24 " 20 " no emb. testis 7, SV small

4254 ♂ *Phyllotea capistrata*

245 x 131 x 27 x 25 " 20 " no emb.

4255 ♀ " "

240 x 133 x 27 x 24 " 20 " no emb.

1. + SKEL  
4256 ♀ " "

252 x 133 x 27 x 26 " 22 " no emb.

Imi. W. Leon, 5800 ft, Jujuy, Argentina

Oct. 3

4257 ♂ *Phyllotea osiris*

231 x 129 x 27 x 21 testis 5 ear 18 " no emb.

4258 ♂ " "

234 x 130 x 27 x 22 " 18 " testis 4

4259 ♂ " "

233 x 124 x 27 x 21 " 18 " testis 5

4260 ♀ " "

216 x 118 x 25 x 22 " 18 " no emb.

4261 ♂ *Marmosa*

242 x 133 x 16 x 23 testis large.

4262 ♂ *Oxygystes?*

174 x 69 x 24 x 16 testis 6, SV small

4263 ♂ *Hesperomys*

147 x 75 x 18 x 14 testis 6, SV large

25 mi. NE Villazon, 12,200 ft, Potosi, Bolivia

Oct 5

4264 Frog.

body, upper legs, thighs sky blue with black. no more traps

4265 ♂ *Phyllotea darwini*

221 x 114 x 24 x 25 x 20 testis 5 ear 20 " no emb.

4266 ♀ " "

209 x 110 x 25 x 24 " 18 " no emb.

4267 ♀ " "

202 x 106 x 24 x 24 " 19 " no emb.

4268 ♀ "

218 x 112 x 25 x 24 " 19 " no emb.



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1955

5 mi. S Tarija, 6700 ft., Tarija, Bolivia  
Oct. 6

|                                 |                     |                                   |
|---------------------------------|---------------------|-----------------------------------|
| 4269 ♂ <i>Brachyrhynchus</i> ?? | 258 x 132 x 29 x 26 | ear 20 aerae.<br>no emb.          |
| 4270 ♀ "                        | 244 x 128 x 29 x 25 | " " "                             |
| 4271 ♀ "                        | 244 x 128 x 28 x 24 | " " " no emb.                     |
| 4272 ♀ "                        | 240 x 125 x 27 x 24 | " 19 " no emb.                    |
| 4273 ♂ "                        | 297 x 152 x 31 x 25 | 20 " <sup>testes 9</sup> SV small |
| 4274 ♂ "                        | 261 x [127] x 28    | — <sup>testes 8</sup> SV small    |
| SKELETON<br>ONLY                | 270 x [132] x 31    | —                                 |
| 4275 ♀ "                        | 193 x 85 x 25 x 18  | <sup>testes 7</sup> SV small      |
| 4276 ♂ <i>abdomen?</i>          | 177 x 78 x 24 x 18  | <sup>testes 6</sup> 6 mm          |
| 4277 ♂ "                        | 254 x 143 x 16 x 24 | testes 10 mm                      |

10 mi. NW Tarija, 8200 ft., Tarija, Bolivia

Oct. 7

|  |                     |                          |
|--|---------------------|--------------------------|
| 4279 ♂ <i>Phyllothea</i> <i>sinuata?</i> | 217 x [116] x 23 x  | —                        |
| 4280 ♂ <i>Oryzomyys</i>                  | 202 x 121 x 25 x 15 | <sup>testes 4</sup> 4 mm |
| 4281 ♀ <i>Abrodon</i>                    | 133 x 49 x 17 x 12  | no emb.                  |

25 mi. SSE Camatagua, 11,500 ft., Tarija, Bolivia

Oct. 8

|  |                     |                                       |
|--|---------------------|---------------------------------------|
| 4282 ♂ <i>Phyllothea</i> <i>magellaris</i> or <i>Andinomys</i> | 272 x 126 x 28 x 25 | <sup>testes 12.5 mm long</sup> 80 gm. |
| 4283 ♂ " "   | 281 x 132 x 29 x 24 | <sup>testes 10.5 mm long</sup> 77 gm. |
| 4284 ♀ " "   | 267 x 131 x 29 x 24 | 66 g. no emb.                         |
| 4285 ♀ " "   | 265 x 126 x 28 x 24 | 67 g. no emb.                         |
| 4286 ♀ "   | 273 x 125 x 29 x 24 | 74 g. no emb.                         |
| SKEL. ONLY   | 260 x 126 x 29 x 24 | 69 g.                                 |
| 4287 ♂ "   | 237 x 129 x 26 x 24 | <sup>testes 2 mm</sup> 69 g.          |
| 4288 ♂ <i>Phyllothea</i> <i>darwini</i>                        | 225 x 125 x 25 x 24 | <sup>testes 4 mm</sup> 74 gm.         |
| 4289 ♂ " "   | 228 x 121 x 25 x 24 | <sup>testes 4 mm</sup> 74 gm.         |
| 4290 ♂ " "   | 217 x 112 x 25 x 24 | adrenals                              |
| 4291 ♀ " "   | 235 x 122 x 25 x 26 | testes 4 mm                           |
| 4292 ♂ "   | 235 x 122 x 25 x 26 | testes 4 mm                           |



O. P. PEARSON  
1955

|      |                               |                     |
|------|-------------------------------|---------------------|
| 4293 | ♂ <i>Phyllostomus darwini</i> | 214 x 116 x 25 x 24 |
| 4294 | ♂ " "                         | 207 x 110 x 24 x 25 |
| 4295 | ♂ " "                         | 207 x 108 x 24 x 24 |
| 4296 | ♂ <i>Hesperomys?</i>          | 151 x 61 x 21 x 13  |
| 4297 | ♀ <i>Marmos</i>               | 195 x 106 x 14 x 22 |

20 mi SSE Comatacán, 8500 ft, Tarija

Oct. 9

|      |                               |  |
|------|-------------------------------|--|
| 4298 | ♀ <i>Phyllostomus cyprius</i> | 255 x 138 x 30 x 24 45 gm no emb.            |
| 4299 | ♂ "                           | 264 x 146 x 26 x 25 42 gm teeth 4 mm         |
| 4300 | ♂ "                           | 247 x 136 x 25 x 23 31 gm teeth 5.5 mm small |
| 4301 | ♂ "                           | 240 x 132 x 24 x 24 33 gm teeth long         |
| 4302 | ♀ <i>Eromys</i>               | 276 x 150 x 28 x - no emb.                   |
| 4303 | ♂ <i>Phyllostomus cyprius</i> | 235 x 132 x 25 x 24 30 gm teeth 4 mm         |
| 4304 | ♀                             | 227 x 127 x 25 x 25 30 gm no emb.            |
| 4305 | ♂                             | 229 x 124 x 24 1/2 x 24 31 gm teeth long     |
| 4306 | ♀                             | 214 x 120 x 24 x 23 26 gm no emb.            |
| 4307 | ♂                             | 239 x 136 x 26 x 24 39 gm teeth 4 mm         |
| 4308 | ♂                             | 241 x 125 x 25 x 23 36 gm teeth 4 mm         |
| 4309 | ♂                             | 222 x 124 x 25 x 23 26 gm teeth small        |
| 4310 | ♂                             | 239 x 138 x 25 x 24 31 gm teeth 4 mm         |
| 4311 | ♀                             | 224 x 129 x 25 x 23 28 gm no emb.            |
| 4312 | ♀                             | 225 x 128 x 25 x 25 28 gm no emb.            |
| 4313 | ♂                             | 265 x 151 x 26 x - teeth 8 mm 5/1 small      |
| 4314 | ♂                             | 232 x 133 x 25 x 24                          |
| 4315 | ♀                             | 232 x 129 x 25 x -                           |
| 4316 | ♀                             | 238 x 131 x 25 x 25                          |



O.P. PEARSON  
1955

20 mi. SSE Cañatagüí, 8500ft, Tarija, Bolivia

Oct. 10

|                                  |                                   |                                      |
|----------------------------------|-----------------------------------|--------------------------------------|
| 4317 ♀ <i>Phyllotis cassinii</i> | 222 x 125 x 25 x 23               | 29 gm. <sup>no emb.</sup>            |
| 4318 ♀                           | 234 x 125 x 24 x 24               | 31 gm. <sup>no emb.</sup>            |
| 4319 ♂                           | 263 x 145 x 27 x 25               | 56 gm. <sup>testes 7, 50 small</sup> |
| 4320 ♂                           | 231 x 125 x 25 x 24               | 35 gm. <sup>testes 4 gm</sup>        |
| 4321 ♀                           | 204 x 113 x 24 x 23               | 29 gm. <sup>no emb.</sup>            |
| 4322 ♀                           | 245 x 135 x 25 $\frac{1}{2}$ x 24 | 35 gm. <sup>no emb.</sup>            |
| 4323 ♂                           | 241 x 140 x 25 x 23               | 39 gm. <sup>testes 8, 50 small</sup> |
| 4324 ♂                           | 236 x 131 x 25 x 25               | 36 gm. <sup>testes 4 gm</sup>        |
| SKULL ONLY                       | 220 x [107] x 25 x 24             |                                      |
| 4325 ♂                           | 251 x 138 x 25 x 24               |                                      |
| SKULL ONLY                       | 228 x 125 x 25 x 23               |                                      |
| 4326 ♂                           |                                   |                                      |
| SKULL ONLY                       |                                   |                                      |
| 4327 ♂                           |                                   |                                      |

Camargo, 8500ft, Chiquimula, Bolivia

Oct. 11

|                                  |                       |                            |
|----------------------------------|-----------------------|----------------------------|
| 4328 ♀ <i>Phyllotis cassinii</i> | 226 x 128 x 26 x 23   | 34 gm. <sup>no emb.</sup>  |
| 4329 ♂ " "                       | 216 x [107] x 26 x 24 | 39 gm. <sup>testes 6</sup> |
| 4330 ♂ " "                       | 268 x 146 x 26 x 24   | 47 gm. <sup>testes 7</sup> |

20 mi. S Potosi, 12,300ft, Potosi, Bolivia

Oct. 12

|                                   |                     |  |
|-----------------------------------|---------------------|--|
| [4331] ♂ <i>Phyllotis darwini</i> | 213 x 109 x 26 x 24 | 33 gm. <sup>no emb.</sup>                        |
| [4332] ♂ " "                      | 208 x 107 x 25 x 24 | 30 gm. <sup>no emb.</sup>                        |
| * 4333 ♂ " "                      | 223 x 122 x 27 x 25 | 33 gm. <sup>testes 4 gm</sup>                    |
| 4334 ♂ " "                        | 225 x 119 x 26 x 24 | 36 gm. <sup>testes 4 gm</sup>                    |
| 4335 ♀ " "                        | 197 x 102 x 25 x 24 | 30 gm. <sup>no emb.</sup>                        |
| 4336 ♀ " "                        | 193 x 98 x 24 x 24  | 27 gm. <sup>no emb.</sup>                        |
| 4337 ♀ " "                        | 205 x 109 x 25 x 25 | 29 gm. <sup>no emb.</sup>                        |
| 4338 ♂ <i>andiumys</i>            | 271 x 122 x 30 x 26 | 112 gm. <sup>testes 17</sup> <sup>sub long</sup> |
| 4339 ♂ "                          | 292 x 133 x 28 x 25 | 102 gm. <sup>testes 14</sup> <sup>sub long</sup> |



O. P. PEARSON  
1955

|      |                            |                               |
|------|----------------------------|-------------------------------|
| 4340 | ♂ <i>Andinomys</i>         | 244 x 105 x 29 x 25 testes 13 |
| 4341 | ♀ <i>Phyllotis darwini</i> | 221 x 112 x 25 x 25 no emb.   |
| 4342 | ♀ <i>akodon</i>            | 149 x 65 x 20 x 14 no emb.    |
| —    | ♀ <i>Andinomys</i>         | 270 x 128 x 29 x 27           |
| —    | ♀ "                        | 281 x 128 x 29 x 25           |
| —    | ♂ "                        | 271 x 128 x 28 x 26.          |
| —    | ♀ <i>Phyllotis darwini</i> | 216 x 114 x 25 x 24           |
| —    | ♀ " "                      | 193 x [96] x 24 x 23          |

Oct. 21

10 mi. N Canete, Dept. of Lima, Peru

Oct. 21

|      |                         |  |
|------|-------------------------|--|
| 4343 | <i>Phyllotis amplus</i> | should only. Pickups.                                |
|      |                         | <u>1 mi. W. Sucre, 6000 ft., Dept. of Lima, Peru</u> |

Oct. 23

|      |                                  |  |
|------|----------------------------------|--|
| 4344 | ♂ <i>Phyllotis amplus</i>        | testes 4, small 17 gm.                               |
| 4345 | ♂ " "                            | testes 8, 5 gm.                                      |
| 4346 | ♀ " "                            | 183 x 103 x 22 x 22 2 emb. left 20 gm. no emb.       |
| 4347 | ♀ " "                            | 181 x 99 x 22 x 21 15 gm.                            |
| 4348 | ♂ " <i>andinus</i>               | 225 x 126 x 26 x 23 ear 17 mm 33 gm. testes 6, small |
| 4349 | ♂ " "                            | 228 x 123 x 26 x 22 " 18 " 31 gm. testes 8, 5 gm.    |
| 4350 | ♂ <sup>Z.R.</sup> <i>Osgoodi</i> | 286 x 155 x 32 x 21 testes 12, 5 small. 65 gm.       |

1 mi. E. San Bartolome, <sup>station</sup> 5200 ft., Dept. of Lima, Peru

Oct. 23

|      |                                  |  |
|------|----------------------------------|--|
| 4351 | ♂ <sup>Z.R.</sup> <i>Osgoodi</i> | 302 x [120] x 33 x 24 160 gm. testes 16 mm |
| 4352 | ♀ " "                            | 265 x 131 x 29 x 21 73 gm. no emb.         |



O. P. PEARSON  
1955

zarate

zorate, 9000 ft, ~~10 km.~~ 10 km. E, San Bartolomé, Dept. of Lima, Peru

Pueblo

Oct. 27

4353 ♂ *Phyllotis andinus*

212 x 115 x 24 x 23 testes 3 mm

4354 ♀ akodon

175 x 75 x 19 x 13 no eng.

4355 ♂ "

141 x 65 x 19 x 14 testes 6, 50 small

Oct. 28

4356 ♂ *Phyllotis andinus*

243 x 138 x 28 x 25 testes 4 mm

4357 ♂ " "

218 x 112 x 24 x 22 testes 6 mm

4358 ♂ " "

woods 210 x 109 x 26 x 23 testes 3 mm

4359 ♀ " "

205 x 111 x 24 x 21 no eng.

4360 ♂ " "

woods 216 x 120 x 25 x 23 testes 4 mm

4361 ♂ " "

brush 242 x 130 x 26 x 24 testes 4 mm

4362 ♀ " "

woods 230 x 122 x 26 x 22 no eng.

4363 ♂ akodon

- x 65 x 19 x 13 testes 3 mm

4364 ♂ *Phyllotis andinus*

woods 198 x 110 x 24 x 23 testes 4 mm

Oct. 29

4365 ♂ *Microtus oxyzonus*

(brush on edge of "pasture") 201 x 122 x 24 x 15 testes 3 mm

4366 ♂ woodpecker (*Chrysocolaptes atricollis atricollis*)

shot by OP, prepared by M. Coffea. Eye red.

4367 ♀ *zaraformis*

length 20, ovary 7 x 4 mm, stomach with red

berries (probably *Psidocarpus*).

Oct. 30

4368 ♀ *Phyllotis*

feld camp 239 x 121 x 25 x 23 no eng.



Pearson, O. P.

1955

Journal

Peru, Bolivia  
and Argentina



1955  
Pearson

O. P. PEARSON

Journal

Chosica, Dept. of Lima, Peru

Aug. 5

about noon set 48 Swedish mouse traps baited alternately with peanut butter and molasses. Rat-sized droppings in 4 places and a few smaller droppings elsewhere. The locality is 1 mile east of Santa Eulalia and about 400 ft higher than the town. traps on south-facing slopes. Hill very rocky (grainy) with big talus rivers, very little soil. Sees cactus, fuzzy cylinder cactus, joint cactus, barrel cactus, tomatoes in bloom and fruit, a white-flowered fig-like shrub, a few blooming and dried compositae, and dry grass. Saw lizards, doves, hummer, flicker; grasshoppers, wasps, butterfly. ~~large~~ <sup>large</sup> Photo L1. Lots of seeds around.

After shopping in Chosica, set 20 more Swedish mouse traps on a gravelly stony hillside across highway from the Mana RR station. Many sheep droppings and numerous rat-sized droppings. Only vegetation is Tillandsia and a few crusty lichens. Found some very old bones that look like viscachas or chinchillas. The big droppings could be chinchilla.

Aug. 6

Spent at Mana station drying wet and enough drizzle to need umbrella. Trap line a couple of hundred feet above the road was in a grayly bleak fog, as it was yesterday am and when I packlighted there last night. ~~Any~~ Didn't see any mice or viscachas while packlighting. One Per. domini in these traps near Tillandsia.



EARSON  
1955



I-1 1 mi. E. Santa Eulalia, 4,000 ft., looking up valley. Aug. 5.  
Cactus, tomatillo, white jatropha, small compositae, dry grass. Lizards.  
Traps line caught 5 Phyllotis darwini and 1 Peromyscus.



I-5. 4 mi. E. Chosica, 3500 ft., south side of valley. Aug. 12.  
Fluted cactus, occasional woody shrubs, few weeds; granite.  
Traps caught 8 Phyllotis darwini.



P. PEARSON  
1955



I-6. Rincon Valley, 4400ft, south side of valley, Aug. 12.  
Traps were set in distance among clumps of 6-foot-tall  
6-fluted cactus. Dried weeds fairly thick, mostly a 1 to 2 foot  
"goldenrod"; and dry grass about 8" tall. Caught 2 Mus and  
12 Phyllotis <sup>d.</sup> leucatus.



P. PEARSON  
1955



I-7 1 mi. E. San Bartolomé Station, 5200 ft., south side of valley. Aug. 12. Mollé, shrubs, and dense weeds (dry), some head-high, many with stick-tight seeds. Some grass. Weed cover unusually rich following unusually heavy rains. Traps ran from foreground up ridge. Oryzomys <sup>pantherinus</sup> abundant in foreground near mollé but nothing among weeds on the ridge.



P. PEARSON  
1955



II-14 1 mi. E. San Bartolomé station, 5200ft, Aug. 24. cactus, dry grass and weeds, small shrubs. arrow shows location of photo I-7. Mother 4046 Phyllotis darwini and 2 young were found dead on road at bottom of this cliff. Traps set along ledges such as the one below caught 1 Phyllotis darwini,



II-15. Detail of above.  
1 Ph. darwini, and 1 juv.

This is about 1 mi. W. Puerto Carrion, shown in II-13.



ARCON  
1955



II-13 Puente Carrion, 5800 ft., Aug. 23, 1955.  
(foreground is about 5450 ft.)



P. PEARSON  
1955



X-27. 1 mi. W. Surco, 6000ft; south side of valley, Oct. 23.  
across highway from Dodge advertisement. arrow shows tank car on railroad.  
Granite boulders. Schinus molle at bottom, century plant, fuzzy stick  
cactus, a small yucca, weeds, and red-flowered jatrophia.  
Traps here on Aug. 24 caught 1 Oryzomys 5 Phyllotis amurensis, and  
1 Ph. darwini.

many sprung-empties on lower part of line, probably by Oryzomys  
On Oct. 24 1 Mus, 1 Oryzomys, 3 Phyllotis amurensis, and  
6 Ph. amurensis. again many sprung-empties.



P. PEARSON  
1955



IV-26. Legend as in photo IV-27 on preceding page



P. PEARSON  
1955



I-3 1 mi. W. Matucana, 6500 ft.; south side of valley. Aug. 8.  
Semi-terraced slope. Cacti, weeds. Valley floor just below picture had  
milk and grass. Catch in photo 3 Phyllotis auduboni; mus and  
Oryzomys on valley floor. (Santa Sombra)



I-4 3 mi. E. Matucana, 8200 ft.; south side of valley. Aug. 11.  
Dry wild oats and about 6 species of woody bushes 2-6 ft. tall.  
no mice caught. marmosa and Phyllotis auduboni caught in  
brushier place nearby.



P. PEARSON  
1955



I-9. Villavista, 12,200 ft. (between Rio Blano + Casafalca), Aug. 13,  
Stoney slope with lippine and other woody shrubs 1-3 ft. tall. no culture.

Traps here caught Hesperomys and 11 Phyllotis andium.  
Eucalyptus here. South-facing slope had bunchgrass + Baccharis, looked more alpine.  
akodon caught along cemetery wall near grass, plus Hesperomys



I-10 3 mi. N Carhuayayo, 13,500 ft, looking west across  
pampa of Lake Junin, Aug. 16. Mina mounds. Phone  
pole about 8 "diameter. Hesperomys and Puna Miners.



P. PEARSON  
1955



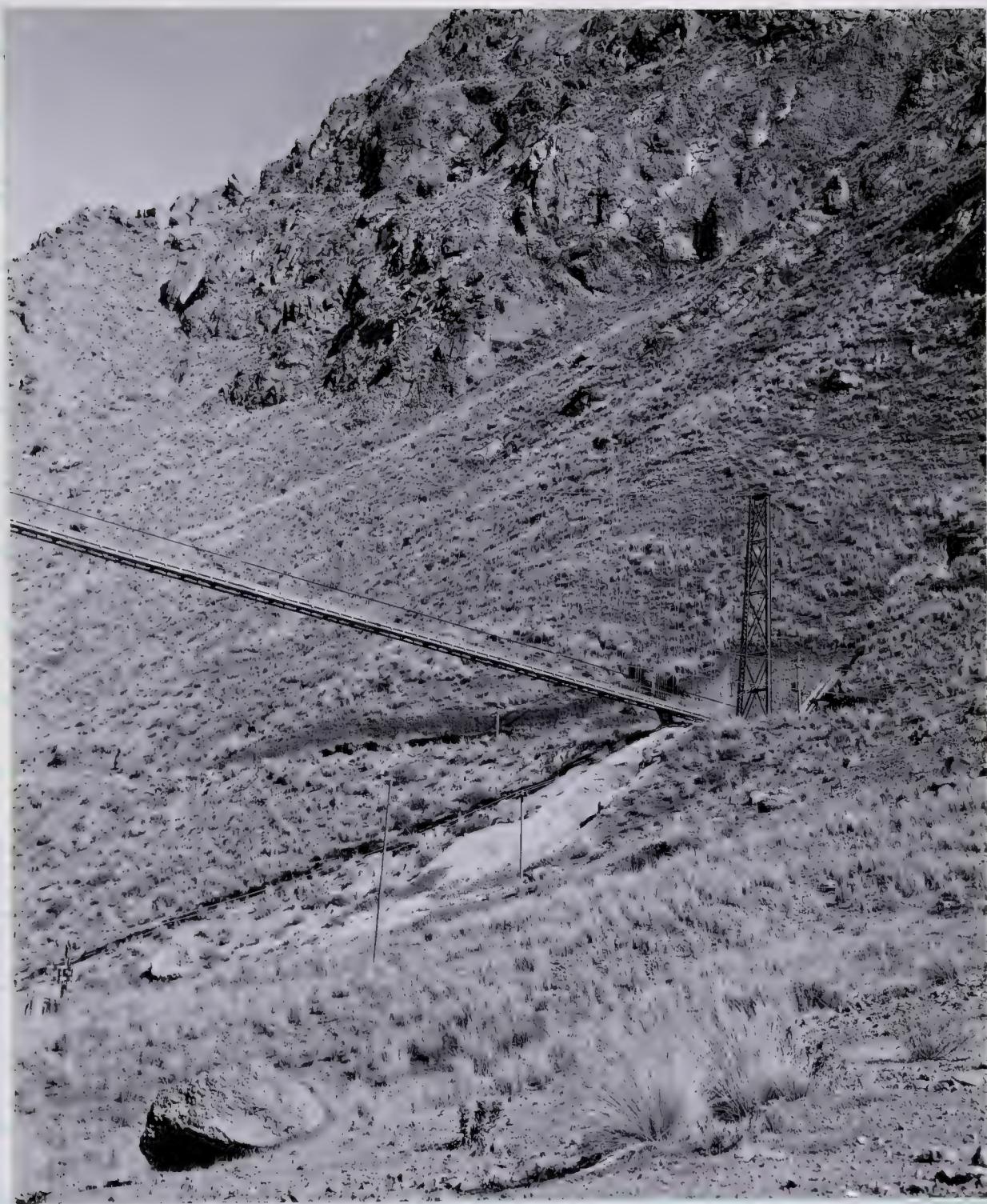
#2 1½ mi. W Casasalca, 13,200 ft., south side of valley, Aug. 15.

Rocky-grassy with much lypine; some? Senecio? This is the upper limit of lypine. North side of valley here has no lypine. Some cultivation on both sides of valley. Traps caught 7 ardvum, 5 postacalis, 2 Hesperomys, and 1 abrodon jelskii. Rh ardum and ardvum postacalis in adjacent traps. See photo 3 for 100 ft. higher and north side of valley. much warmer than at the 14,000 ft. camp.



P. PEARSON

1955



#3 1 mi. W Casafolca, 13,300 ft., north side of valley, Aug. 15  
Pchn, Senecio, Baccharis etc.. Traps caught 1 Phyllotis  
darwini postlethwaitei and 4 Hesperomys. See fig. #2 for nearby  
habitat with Ph. andinus.



P. PEARSON  
1955



1 mi. E. Casapalca, 14,000 ft., Aug. 14. Bunch grass, fleshy Senecio, Pycnophyllum, etc. Trap caught Hesperomys —, Neotoma, and Phyllotis darwini.



South side of valley below Casapalca, about 13,000 ft. mostly  
limestone with some bunchgrass. No traps here, but probably  
probably both Phyllotis darwini oreocetes and Ph. andinus.



P. PEARSON  
1955

Bright sun when I got to the Santa Eulalia traps at 8 a.m. Probably no fog earlier. Snog over Lima. These traps with 6 *Peromyscus darwini*

Drove up the Carretera Central to San Bartolomé and skinned. Then put out about 60 Swedish mouse traps on a north facing slope 1 mi. E of San Bartolomé. Habitat mostly weedy. Thorny "molle" "immosa" trees down on the valley floor, plus weeds. Even the steep slopes quite weedy with only occasional cacti. Some grass. Some of the dry weeds head-high and many of them with stick-tight seeds. Some rock outcrops, but the weedy undergrowth too dense for what I consider good *darwini* habitat. Saw only one set of droppings. Dove, poor-will, hummer, flycatchers, ams

Aug 7

August 7

Fog at Chosica overnight, up at least to a mile above the Santa Eulalia turnoff but not much higher. Traps held one badly eaten *zuniga* rat (*Oryzomys* ~~zuniga~~). Most others either sprung or had gone (ants). Will have to come back with bigger traps.

about 3 p.m. set ± 55 Swedish mouse traps between Sucre and Matucana, about one mile west of Matucana, I think, but I didn't go all the way into the town. The hills here are grassy-weedy with some cactus, quite a few cactus plants, ~~thorn~~ <sup>tree</sup> and ~~thorn~~ <sup>tree</sup> ~~tree~~, some eucalyptus. The weeds not as thick as at San Bartolomé, but there are <sup>some</sup> trees of *Peromyscus darwini*

1098  
125  
122  
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J. P. PEARSON  
1955

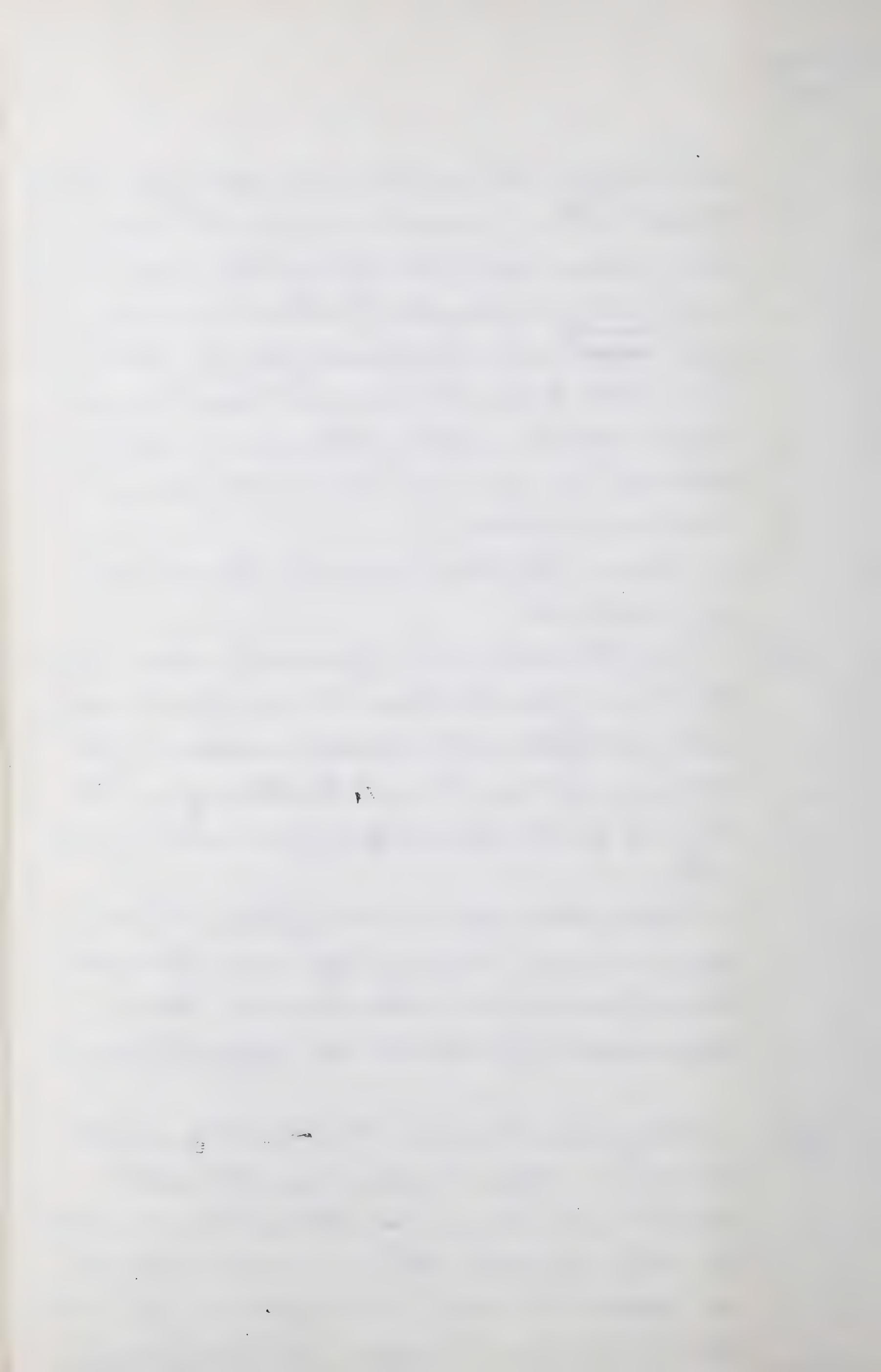
Put my traps on the north-facing slope after crossing the RR tracks. Traps are in somewhat bare terrain than most of surrounding hills, semi-clay soil with lots of big clumps of cactus (big clump of a big ~~aster-flowered~~ and a big species of the flying cactus). Region looks OK for cactus were but didn't see any. A dull woodpecker in the big cactus, also a small very poor will, hummers, fly catchers. No lizards seen here or at San Bartolomé.

Evening started out clear at Chosica, looks foggy to the west.

Aug 8 Foggy at 5 am. 8 to a few miles above Chosica. At 3 mi. E of San Bartolomé at 5:30 am found a dead lactating ♀ Phyllotis on the road and 2 minutes in the ditch a few feet away. It was at the bottom of a steep cliff. Tip of her tail skin stripped off, no marks near of death.

Traps on cactus slope had 3 Phyllotis, not sure deserti or auduboni. Half dozen traps along stone wall at edge of perennial grass pasture + there was killed one house mouse (not sure) and one zuniga rat (Oryzomys)

Aug 10 Wednesday. Returned to Lima Monday + Tuesday for battle with Advarra. Equipment got in OK (for \$125) except ammunition, which they counted bullet by bullet to 1223 and then withheld for permit. Got the run around on permits, so abandoned the ammo (unless Koepke can get it out). Slept at Chosica. Foggy but cleared early.



P. PEARSON  
1955

a little *Tillandsia* still at Chosica. Then drove to 3 mi. E Matucana, 8200, to search and set traps. North facing slopes of narrow gorge are wild oats and <sup>scattered</sup> woody bushes 2 to 6 feet tall, at least 6 species. S-facing slopes look more altoplana with few bushes and some bunch grass. Set a bag of museum specials (corn meal) among oats - bush plus some in some vine-covered stone walls + First llanar (packing at <sup>mina Viso</sup> ~~mina Aviso~~ <sup>Tambo Viso</sup> (same as Aviso spring) about 8500 feet. Not much cactus.

Another short bag of museum specials at San Mateo, 9500 ft. Rather brushy, not unlike magister terrain in southern Peru. Brushier than the other line 1 mi. E Matucana and with fewer wild oats (more heavily grazed), [wood-bunching camps]

Aug. 11 The lower part of the 8200 ft. trap line in oats, scattered low shrub, and rocks caught 1 Marmosa and 1 humpy-eared darwini-andium (Ph. from 1 mi. W Matucana had humpy ears too). The larger upper part of the line in oats, low weeds, "sage", caught nothing.

The 9500 ft. line in brushy places caught 1 Akodan, 1 long-tailed Oryzanga, 7 Ph. andium. Skinned till worn then went downhill to set traps. About a dozen at the Juniga rat place (1 mi. E San Bartolomé, 4800 ft), 5 of them with mouse meat bait. Then set a bag of museum specials (corn meal) at 4400 ft near a min<sup>2</sup> right by the road.



P. PEARSON  
1955

The vegetation is 6-foot tall fluted pipe cactus (6 flutes) every 100 feet or so, dried weeds fairly thick, mostly a 1 to 2 foot "goldenrod"; and dried grass about 8" tall. This cover is almost as thick as a poor wheat field, <sup>but</sup> not as tall weedy as 1 mi. E San Bartolomé and without as many stickers. Stony ground

also set a short bag of traps among the same kind of fluted cactus at 3500 ft 3 mi East of Chosica, but here among large granite boulders and cliffs, with few weeds, occasional woody shrubs. This seemed to be the most practical place to look for topotypes of hirta.

Fog comes in at Chosica about 8/2 a.m.

Aug 12 Foggy at 6 a.m. Traps at 4 mi. E Chosica, 3500 ft, held 8 hirta, all with dirty grey bellies, many with truncated tails. Traps at 4400 ft. among "goldenrod" and big cactus held 2 house mice and 12 hirta. Traps at 1 mi E San Bartolomé had 2 moisture Zenaidura and one body eaten? Oryzomys? Many sprung & empty as before.

After skinning drove up higher. Maximum brush seems to be about at San Mateo. Camped at a village a couple of miles NE of the town of Rio Blanco, elevation about 12,200 ft. This has bunch-grass, (ichu?) and Baccharis, looking somewhat like atypical ~~fl~~ also weedy ~~fl~~ trees and other trees, and some slopes with brush. Set one bag of traps on a stony slope among rather abundant Lippia bushes (1-3 ft. tall)



P. PEARSON  
1955

and other bushes about same size. No coctus. also about 20 traps along stone walls in grazed places. The lupine sometimes has woody stems an inch thick.

Aug. 13 Traps liver bad & abdom (all along cemetery wall near grass), 7 Hesperomys (some at cemetery wall & some in lupine) and 12 andium (1 along cemetery, rest in lupine, especially near talus or other rocky holes.

A passing gentleman tells me this ~~place~~ <sup>location</sup> is Huancancha, an old Spanish smelter; about a mile up the road is a Cerro de Pasco mine Villavista, and 200 yards downstream is a pueblo, Chica.

After skinning down further up the hill. Lupine stops fairly abruptly at about 13,000 ft., then bunch grass stopped at 1 mi. E Casapalca, 14,000 ft., and set 2 bags of traps among bunchgrass on gravelly stony slopes, some big rocks. Looks like darwini, chinchillina country. lots of large fibrous green droppings. Many kinds of altiliana plants, but in small numbers: Distichia, fleshy Succio, thorny bush (Succio or Margyriacarpus), and Pycnophyllum. A few patches of snow about 200 ft. higher

Aug. 14 Sunday. Night clear, about  $-3^{\circ}\text{C}$ , frig of ice on stream.

Traps caught 1 Notomys, 3 Hesperomys, and 7 Ph. darwini hosticola, the latter big, grey, hairy tails, not looking like andium.

After skinning down to  $1\frac{1}{2}$  mi. W of Casapalca, <sup>13,200 ft</sup> and set a short bag of traps on steep north-facing slope, rocky grassy with lots of lupine. This is the uppermost lupine.



P. PEARSON  
1955

The south facing slope here is all bunch grass, no bushes. among the bushes are some shrubby, dissected leafed yellow-flowered ?senecio?. Looks more like andium than darwinii. Much warmer here than at the 14,000 ft. camp. Cultivation on both N and S slopes; very steep.

Also put traps at 1 mi. W Casapalca, 13,300 ft. on a south-facing slope growing to ichu, the dissected leaf yellow-flowered ?senecio, and lesser grasser & forbs. The upper part of the line had some Baecharis (a couple of 5-foot high bushes, fleshy leaves), and ~~as~~ a woody thorny shrub with red Hudson point bunch flowers. I think same as above Tarata [Chrysocoma or Chrysognathus, or something like that. Enough ichu so that osel could live here.

The upper of these two trap lines is where a mine aqueduct carrying sludge crosses the valley by suspension bridge, and the lower line is just below where the sludge is dumped in a side canyon.

Aug. 15 Night clear, ice at 13,300 ft.

The upper trapline (1 mi. W Casapalca, 13,300 ft., ichu) caught only 4 Hesperomys and 1 Ph. darwinii (posticaria). The lower trapline (1 1/2 mi. W Casapalca, 13,200 ft., bushes) caught 8 andium, 5 posticaria, 2 Hesperomys, and 1 abodon jelskii. andium and posticaria were in adjacent traps, but in general the posticaria more open, the andium more bushy.

Drove over the pass to Oroya, then north toward Cerro de Pasco. The pass, about 16,000 ft., is mostly bare



P. PEARSON  
1955

cinder with scattered bunchgrass; about like the Cacochaca-Varié pass. Nowhere is there tola, as in southern Peru. From Oroya north is bush grassland, bunch and otherwise, much like *Thaerina* Fairmairei. No tola, brush, or anything larger than the grass.

Road unpaved and rough all day except a tarred stretch from Oroya to the Tarma turnoff.

Set about 20 traps along stone wall in grass.

Aug. 16 Night clear & cold, heavy frost. Water bucket in car froze, mice wrapped in newspaper in car froze solid. Traps caught 1 Hesperomys and 5 Ph. pictus.

I think I have found some muña mounds for Dr. Scheffer. At the north end of Lake Junin, 13,500 ft., about 2 miles N of Carhuaway. They are on a pampa sloping apparently westward toward the lake and are spaced 6 to 12 yards apart, none more than 2 feet high, mostly about 1 foot. Vegetation is low grass and poches, not unlike the Loco Loco two pampa, with no vegetation higher than 3 inches. Ground is very stony with rocks up to 8" diam. Road cut reveals a fine soil with rocks like conglomerate for at least first 2 feet down. This area of mounds covers between 1 and 4 square miles, houses around it but not in it. It is used for grazing, and over parts of it parallel strips of turf have been removed for fuel, but I do not think the mounds are man-made. I walked through the area and saw



P. PEARSON  
1955

no guinea pigs or tree-trees, nor their droppings. A few burrows of fairly large bore were present, all opening on the mounds, and one of these had fresh mouse droppings. Passed a similar but less impressive area somewhere south of Carhuamayo.

As a habitat for Oli. darwini (furthest north), Carhuamayo looks unpromising, but there are some rocky hilltops east of the town. In general the terrain is similar to the flat "hut" country west of Titicaca.

About 4 miles  $\pm$  N of Carhuamayo on a flat pampa is another set of mina mounds larger and more distinct than the others. About 1 in 20 of these has a hand-size burrow in the side, many showing fresh digging. There are a few burrows in between mounds, but not many. However, these are similar burrows of on the hillside where there are no mina mounds. Two burrows showing fresh digging also had feathers and a wooly bird's nest lying on the ground at the opening; probably coot digging out lava miners.

Put out about 15 museum specials and 6 jump traps in burrows in mina mounds. Also about 25 museum specials along a wall upon the hillside - grass and small Chiriqua bushes (about 1-2 feet tall, thorny, red blossoms).

Jacklighting among the mina mounds showed nothing.

Aug. 17 About  $\frac{1}{2}$ -inch of snow overnight. No tracks in and out of mina burrows before 6 a.m. except 1 mouse. Traps ~~\$~~ in burrows had 1 Hesperomys. Another set of mouse tracks that



P. PEARSON  
1955

I followed about 50 yards and under a 10-inch stone, not on a mima mound, and there was a Hesperomys in a grass nest. He was quite tame. Traps along trail caught 3 Ph. picta and 1 Hesperomys.

After about 6 a.m. the miner birds started popping in and out of the mima burrows, as well as the burrows up on the hillside. I am convinced that they are the principal occupants of the mima burrows.

A schoolmaster working passerby said the mima mounds were the result of growth of a certain plant with edible seeds that the Indians used to use, but that the plant has been gone about 300 years as a result of grazing.

Several other sets of mima mounds appear between Minasaca and Cerro de Pasco, with perhaps the biggest of all at the Canta turnoff. Whenever there were mima mounds, the road cut showed an upper layer about 10 inches deep of stony soil, underlain by a layer of almost pure stones, most of them under 5 inches diameter.

Took the eastern road from Cerro de Pasco down toward Huancaca. The road goes down a steep canyon with many ruins of old Spanish mining activities. Went down to about 12,500 ft., where a small boy said it was about <sup>[frosty about 26]</sup> 6 km. further to Huancaca. The steep canyon sides became rather bushy bunch grass, then, without a brushy zone, *Quilwa* trees appear. *Acacia* (or something similar) and grass. Between 13,000 and 12,500 appear also *Locust* and a walnut-looking



PEARSON  
1955

tree around houses. Some cultivation at 13,000 ft, and at 12,500 lying to ~~the south~~ be quite furnish.

Stopped at a side road to <sup>the milpa mine</sup> a mine at 13,000 ft in a Huarica-like gorge. Floor is good green grassy turf, sides dense bunch grass. A few small patches and traces of brush. At 12,500 it was certainly too temperate for posticatis, and here may not be bushy enough for andinus.

Put about 15 traps in ~~the~~ a weedy-bunch patch near the stream, about half a bag under boulders etc. on dense bunchgrass hillside, and another half bag up a steep narrow chute going to grass + sphagnum. This locality shall be known as 10 mi. NE Cerro de Pasco.

Aug. 18 Traps held 10 Abrdon, 1 long-tailed Oryzomys, 2 Neotomys, 1 Abrdon jelskii, and 1 Hesperomys. No Phyllotis! While picking up the traps I realized that there was no bare ground - hence no Phyllotis.

Drove down the canyon to below Huarica where the other Cerro de Pasco road comes in. At about 12,000 ft there are many kinds of trees and bushes, a few orchid plants seen, and vegetable gardens with cabbage, lettuce, onions, plus geranium and roses. Although some bushy areas, considerable grass cover. By Huarica, however, things are drier again, with century plants on the walls, and open brush. Especially between Huarica and the other road (10,500 ft. +) there are bushy ~~hillside~~ hillside with open stony ground in between - looks good for

4 3 5 4  
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1 3 0 6  
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(4)

P. PEARSON  
1955

arduin. In this canyon, however, (distal valley), arduin and darwin must be well separated by a moist grassy zone between about 12,000 and 13,500 ft.

Came back up the canyon of the Rio Tingo. This one is wider, more grazed, looking drier, but still with a grassy zone to separate darwin and arduin. The problem is, why doesn't arduin go further south at about the 11,000 ft level (or doesn't?). Huarina looks just like Abancay, Andahuaylas, etc., Darwin surely goes further north along the cordillera west of Cerro. Some snow-capped range there.

They are planting and cuttimbing eucalyptus in the region of Huarina. Much is being cut for mine timbers. The guanaco trees follow along the stream bank rather closely. The highest ones in the Rio Tingo valley were 13,000 ft.

altitud check: hills S of Cerro - 14,500 ft.

After skinning drove across Pampas and through needle rocks to Huarina. Took a wrong turn here and went up a mine road to over 15,000 ft, then had to come back to Huarina and up the other road. Overstolen by darkness at 15,000 ft, so pulled off into grass-bur fork. The low-fork + grass pampas that they graze appear on in southern Peru they dig for fuel here. They cut slabs about 1 ft x 2 ft x 3 inches, like sod. at this camping place above Huarina the slabs are mostly yareta with a little Distichia and grass mixed in. A partly dried slab 10 x 20 x 3 inches felt quite light and



D. PEARSON  
1955

weighed 4 lbs. There are a few pillows of yareta here, but mostly sheets of it perhaps 50 ft. square covering a whole slope. One such area had had some turf removed and was growing back mostly to yareta.

Aug. 19 Camping place by daylight (above Hvalley, 15,000 ft.) turns out to be a bowl with rocky cliff headwall and nice little stream coming out of Distilia. Also dwarf grass and yareta. No bunch grass. Saw one nicocla in the cliffs (my first one this trip), a pair of fulcas (unusually high for them), and two caracaras spent the night on a rock ledge. Skirt can freeze in car but not water can. The yareta feels and sounds hollow as you walk across it early in the morning.

The road from Hvalley to La Viuda <sup>part</sup> goes for several hours across dwarf grass + yareta country above 14,000 ft. Practically no bunch grass such as ichu. Comes at 15,000. Only at the highest places are there open ground - bunch grass like Tinamota country. Most all the way looked like dandy Viuda country, but saw none. Thiaworm, flaming, coot, terns, miners blocks + whiteflower; quite altilianish. On the west side after the summit bunch grass appeared. Then ~~was~~ a zone where a fleshy Sesuvia was quite common (14-15,000), then a zone about 14,000 where there was quite a bit of talo. First larch appeared at 13,400.

Stopped at the eastern outskirts of what I think will be



PEARSON  
1955

no, culway  
~~San Bernardo~~. Steep hill sides, narrow valley, many stone walls, hillside crumpling terraces and rock outcrops, the walls with low bushes of many sorts including a couple of scraggly lippines. Looks like andean habitat, but hope to get mogister. One bat flying at dusk. A few tree joint cacti; much grazing by cows, burrows. Bushes include *Baccharis*, *Sergobhulariaceous*, (Calceolaria) a dissected-leaf *Senecio*, nettle. Put out one bag of traps just before dark. Eucalyptus here in the town.

Aug 20. Sat. Traps produced only 2 mice, longish-tailed big Hesperomys. Big hummer (Patagonia?) seen and another smaller black hummer at the creek of down. Large coarse stick nest in one of the tree joint cactuses may be cactus wren, but have neither seen nor heard any. Colder south-facing slope just below here has good rich lippine. Local yobsel (town culway) says altitude is 11,900 ft. About 2 miles below the town the roadside and streamsides has considerable thorn bushes with lavender flowers, about 6 ft tall

Took another wrong turn and <sup>dead</sup> ended at Huáras, but near there encountered some nice stone wall-bushy habitat reminiscent of mogister habitat above Tarata. 12,000 ft. Lush lippine, *Calceolaria*, and other bushes, many with showy flowers and hummingbirds. Set half a bag of traps at noon. Took a couple of hours because of small boys people working in the fields, etc. Then drove down the Canta road about 5 kilometers and set a half bag among large boulders + bushes (*Baccharis* + others) and joint cactus. Then drove up to the river below Huáras and set among stones





II-9 Huáros, 12,000ft. Aug. 21. Lush lispine, calceolaria, and other bushes. Traps caught 7 Hesperomys and 2 Phyllotis andinus



II-10 Below Huáros, 11,500ft. Aug. 21. Ph. andinus, H. esperomys



R. PEARSON  
1955



II-11 3 mi. W. Huáscar, 11,300ft, Aug. 20. Huge boulders, bushes (Baccharis and others), and joint cactus. Traps caught 1 abdom, 1 microaryzomys, and 2 Phyllotis andium



PEARSON  
1955

and brush in two places. This makes 4 trap lines, some of them in subsections, essentially all among rocks & bushes. The best vegetation is the tree joint cactus (up to 10 ft.), but some of the other bushes reach almost that high when supported by one of these cactuses. Saw no droppings while setting. Was most frustrating trying to set and fearing that I was being watched.

Everyone says there are trout in the river, but especially in the lakes higher up. Tried 4 places along the river with a spinner, but no bites.

Aug 21 Sunny. Catch at Huánuco, 12,000 ft.: 2 Hesperomys and 2 Phyllotis andinus? at Below Huánuco, 11,500: 4 Hesperomys, 1 Oryzomys (mico), 1 Phyllotis andinus, and 2 Oryzomys??. At 3 mi. W Huánuco, 11,300 ft.: 1 abrodon, 1 Oryzomys (mico), and 7 Ph. andinus. Altitude check at 5 p.m.: Canta read 9800, Huánuco 9200. See from aegina spray at Huánuco.

REVIEW OF SPECIMENS: In Huanc Valley Thomomys <sup>darwini</sup> ~~huancavilensis~~ from Marañón, 2000 ft. to 3 mi. E San Bartolomé, ~~4700~~ <sup>5200</sup> ft. (P.D.R.). No sign of intergradation ~~to~~ I have andinus from 1 mi. W Matanea, 6500 ft., up to 1½ mi. W Casopalea 13,200 ft. where it is sympatric with posticulus. This is the lowest posticulus. Must have more between ~~4800~~ <sup>5200</sup> ft. and 6500 ft. to bring huancavilensis and andinus together. In Canta Valley, have andinus so far from 13,000, 11,500, and 11,300.

Drove <sup>to</sup> about a mile west of Canta and parked in a Vin the road. Set a short boy of traps along various stone walls lined with weeds and brush. A few century plants, no cactus.



PEARSON  
1955

Canta has corn + beans and the tall beans.

1 mi. W Canta, \_\_\_\_ ft, Dept. of Lima, Peru

Aug. 22 Traps caught 2 Marmosa, 1 Hesperomys, ~~and~~ 2 big old male Ph. andinus, <sup>and 2 juv.</sup> Parakeets here. [I later saw 2 large flocks of Parrots. The original ones may have been parrots, but probably parakeets].

Drove down the Chillon Valley. Much like Huanc. There are some big willows about 2 ft or more in diam. here that I don't remember in Huanc. Also, it is my impression that as one comes down the Chillon the zones are higher. Vegetation at 4000 ft. in Huanc is at 5000 in the Chillon.

During a traffic tie-up (hard on collision on a curve) at 7000 ft., I tried fishing. A 10 inch rainbow trout on first cast; two other strikes. Stopped in the Tillandsia zone. Just before dark put out almost 2 bags of museum specimens among the rocks + Tillandsia about 200 ft. above the road. Found only one set of fresh viscach? droppings and put a steel trap there, but no good burrow. Some Tillandsia of both species in bloom. Of the smaller species, some plants that look like they have been backed off the path have a fresh-looking flowering stalk with flowers. Saw a condor only 50 ft above the ground at 5:45 looking west. Also a black beetle with long proboscis, a spider, and several "clothes" moths emerging from the Tillandsia at dusk. Fog bank gathered downstream at 6 and in ~~the~~ some side valleys, but hasn't hit here yet (7:45). Found



PEARSON  
1955

a fox or dog dropping containing mouse jaw, well up on hill.

Went rockhunting among *Tillandsia* at 8:30 but saw nothing except one poorwill.

Aug. 23 Still no fog in a.m. although whole valley is misty clammy. Fog banks roll down the valley. Trap line of almost 2 bags of carefully placed traps produced only one mouse, a ~~young~~<sup>or an animal</sup> *Thomomys*, I think. No birds seen while running traps at 7 a.m., no insectas.

There are widely scattered fragments of human? bone and pottery on the slope, and a few obviously excavated graves. On east-facing slope beside *Tillandsia* had lots of small tufts of branched *Echium bieberi*. This locality to be 2 mi. E Chosca, 2000 ft., Chillon Valley, Dept. of Lima.

For future reference there ~~is~~ is good *Tillandsia* down at Km 32 on Santa Road. Right by road, off-the-road camping place, 3 or 4 species of *Tillandsia*, many small shells, but saw no insecta droppings.

After passing through Lima drove up to 1 mi. W Surco, 6000 ft. (Dodge billboard) and set traps in a slope of huge granite chunks blasted out of the railroad above. Vegetation includes the valley tree, *Century plant*, fuzzy stick cactus, a small yucca, ~~and~~ weeds, and the red-flowered leafless "fig". Then drove down to Km. E. San Bartolomé, 5200 ft., and set traps on the steep cliff above the place where found the Phyllotis and young DOR. It is a few hundred yards east of the Zuniga rat trap line in the weeds. It is also about 1 mi. W of the famous Puente Carrion.



P. PEARSON  
1955

So these two trap lines straddle Prenete Canyon!

Then returned to Mata for the night and set about half a box of traps at the ~~same~~ place ~~above~~ across the road and above the RR station. On the last night, most of this *Trilobularia* is the biggest kind - but sparser. However, up near the top of the hill I found what looks like 2 viscacha burrows, and set steel traps there as well as 1 other steel trap in a not-so-good place. Quite a few droppings around. These traps set at dusk, so better not run them too early so that a diurnal beast would have time to get caught in the morning. Fog lower down the valley, but none at Mata yet (7:15). 1/3 moon now. [Foggy at 8:30 a.m.]

a ~~coyote~~ <sup>coyote</sup> ~~burrow~~ (old) up by the viscacha burrows suggests that local hunters had been up there.

Aug 24 Clearish at 6 a.m. except for damp misty smoke (cotton plant burning season), but fog came in about 7 a.m. Nothing in Mata trap line, but while running it saw a viscacha near my steel traps and shot at him but missed. While checking one of the traps later he dashed out of a hole 6 feet away from me and escaped. Left 5 steel traps there.

Wild cat squashed on road at Prenete Canyon.

The trap line up on the cliff at 1 mi. E. San Bartolome, 5200 ft., caught Thomomys, Laudomys, and 1 juv. probably Thomomys. The line at 1 mi. W. Surco, 6000 ft., caught 1 juv. Zenaidura <sup>rat</sup>, Thomomys?, and 5 Laudomys?, several of these pregnant, the first pregnant Laudomys, I believe. Several traps on the lower part of



PEARSON  
1955

this line sprung empty.

Then drove back to Lina for gas, job, supplies, and news of Rahn.

Aug 26 <sup>FRI.</sup> Spent the night at Mará and in the fog at 6:30 a.m. picked up the steel traps I had left for viscachas. Nothing in them. But discovered a museum specimen that I had missed before, and with a live limatula in it! Back to Lina because the owners papers for truck weren't ready yesterday. Went to museum and saw more Koffler specimens, including from west slopes in northern Peru, a porcupine, an anteater, and a skunk with wooly hair. also Tayra and also a tiny crab-eating skunk from the coast. Then visited the anthropology museum and finally got my owners papers at 6 p.m. Drove to Chosica for supper and for the night.

Aug. 27 Up the hill. Opossum squashed on road at 7500 ft (matucana). Highest Schinia tree was 8700 ft., but scarce before then, and none at my 8300 ft. trapping place. according to Koffler the other common valley trees are Sabip, acacia, and thorny algarrobo (Prosopis?).

Stopped for lunch at the bush into Andino in Morococha with Dr. Hurtado, Dr. Tito Velasquez, and Hermann Rahn, then to between Oroya and Jaya for the night. Raining. Tried the Rio Mantaro in 3 places for fish but no bites.

Aug 28 a little ice overnight. a doozy morning of bumpy jolts and washboards. Lunch probably somewhere near La Mejorada between Huancayo and Ayacucho at 10,000 ft. (The Huancayo

23  
24  
22  
62  
10  
11  
15  
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196  
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122

J. PEARSON  
1955



II-17 Rio Mantaro, 8500 ft., looking upstream. Aug. 29  
Dry short grass, Schinus trees, cactus, bromeliads.  
25 mi. NW Llentes Alcamachay. Traps caught 2 long-tailed  
Hesperomys, 2 Aodon:, and 2 Phyllotis



P. PEARSON  
1955

Pampas is about 11,000). At 10,500 and lower there is lots of brush, sometimes dense enough to be called chaparral. Schinus is abundant, Scotch broom, and a large variety of xerophytic dust-covered shrubs.

And in the afternoon followed the Rio Mantaro downstream still yet and stopped for the night at 8500 ft. In 8 hrs of driving and 3 hours of sightseeing and picture taking I seem to have covered about 120 miles and shifted about 20 lbs of dust.

The brush gets even bigger between 10,500 and 8,500 and in places could be called a thorn forest. Schinus 15 ft. tall and a foot or more through the trunk; an even larger tree with willow-like leaves and red wood; a thorn tree; and numerous shrubs and cacti such as big Opuntia, Agave, ~~+~~ joint cactus, and century plants. Put out a bag of traps along a stone wall of a pasture with dry short grass, big Schinus trees (15 ft.), big Opuntia trees (15 feet), and assorted smaller weeds + cacti.

Walnut trees, at least around houses. Many of the cacti and trees with bromeliads.

Ran my traps <sup>most of</sup> at 8 and 9 p.m. and had Oryzopsis or abdom and 2 Phyllotis !!!

Aug. 29 Morning overcast, temp at 6:30 13°C. Total catch in traps 2 Phyllotis sp., 2 long-tailed Hesperomys, and 2 abdom or Oryzopsis. There are parrots here, and a huge swift-like hummingbird with a single "peep" note and with wingbeats much slower than the smaller north american species. Feeds on Opuntia blossoms.

Bones + viscera of the mice were pink - from eating



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II-20 near Puerto Algomochay, 7500ft, Aug. 29 Saguaros,



II-18 Saguaro, and thorn badlands. no trapping here.



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cactus fruits? cochineal?

It was 20 km by road to a village Ayacucho and 53 km by road to the Puentes Alcomachay. Call it 25 mi. NW Puentes Alcomachay. The Puentes is about 7500 ft. and the road drops to about 7300 ft. before starting up the valley to ayacucho. Shortly below my traps sugar cane appeared, and later, bananas & oranges.

In general it was a day of schincas, cacti and thorn scrub; goat country. Drove for 5 to 6 hours and stopped 2 miles <sup>Santa</sup> ~~of~~ of ayacucho, 9500 ft. Some badlands shortly after leaving the Mantaro.

Put out 1 1/2 bags of traps in rocky opuntia, joint cactus, sage (a 2-foot bush with upright willow-like branches, no thorns. The ground is very stony-gravelly with some short grass (not bunch), grazed by goats).

Aug 30 3 Phyllotis and 1 Hesperomys in traps, dry grass rolled by crickets.

There are coctura men here. Clear breast. Song 3 to 6 clear pipes followed by a slightly descending laugh. The first notes are sometimes grated or trilled.

Above ayacucho the road passes through a slightly bushy zone (looks like Baccharis) then opens out into bush ichu. Climbs to about 13,700 ft. Looked in vain for Molophilus recta and menra until just before the road drops off toward Rio Paracha when I saw 2 small bands of menras (short-grass pampas and some bunchgrass, 13,500) and 1 Molophilus recta. The menras would be less than 10 miles north of Puentes Pampas. Then endless zigzags down into



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the Schinus and cactus. First feelings at 10,500 ft. Some real trees in the gullies near this altitude, but lower down becomes cactus + thorn with <sup>parrots</sup> ~~and biting grates~~ sugar cane, orange, and banana. The river is  $\pm$  6900 ft, with real thorn forest along the edges. The road up out of the Rio Paucar to Chincheros is along a densely brushy south facing slope with greensward etc, most of the brush being Schinus and Scotch pines. The opposite north facing slope is drier, bare; in lower part has large bayless trees draped with Spanish moss.

The ichu country between Ayacucho and Rio Paucar is quite sparsely populated. Numerous shepherds with sheep, cows, + horses, but few houses, possibly because of little water. No llamas!

The ichu looks dandy for Ph. ositae. At 2:30 I saw the road drop off toward the river and had to decide whether to camp or make a run for it. Decided to try to get down and up the other side, but no Phytotis - looking places appeared before Chincheros, and above Chincheros it got dark, with ~~the~~ continual row of houses along the road. Camped along road maybe 20 minutes above Chincheros; no traps out.

Right about where Vizcachas and tinamou appeared, hawks became much more abundant. Saw more big hawks in half hour there than on rest of trip.

Last night in the goat brush 2 miles from Ayacucho, I could hear the low fidelity public address



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system, the  $\frac{1}{4}$  hr. bells, and the various ecclesiastical boughings necessary to life in a Peruvian town. Tonight, full moon among the small farms of the Chinchero Valley, a dozen or more dogs are barking and a flute and drummer are accompanying a bonfire in the courtyard of a small farm down below, the white-crashed adobe stalks against the dark hills.

Aug. 31 The road from Chinchero to Talavera-andahuaylas goes up into ichu country with sheep, cows, horses, no llamas. Saw no viervas or trivanas. Then down again into the Eucalyptus at Talavera 9200 ft. Spent a couple of hours in Talavera taking pictures and waiting for the light to be right for the shot. Then it clouded up just before the right time. The three towns Talavera, andahuaylas, and I are all photogenic and only a few kilometers apart. The latter has a plaza that is colossal, but sun was down before I got there.

Drove up out of the valley into the ichu at 12,800 ft., and set traps among boulders by jacklight at 8 p.m.

Sept. 1 Only 1 abrodon boliviensis; not scared. Temp. at 6 a.m. -4°C. Then across ichu highlands and down down to abancay, but with magnificent snow-capped peaks and deep valleys along the way. Then up again into ichu and colossal vein of cloud-draped Salcantay and Cordillera Blanca. Then down again towards Rio Apurimac.

Camped at 8000 ft. among 10-foot bushes of Lechos, thorn, opuntia,



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etc. and put out half a bag of traps. Full moon.

Sept. 2 3 Hesperomys in traps. Then down to Puente Canyon at 6200 ft. Between 8000 and ~~8000~~ a few hundred feet above the river, perhaps 6500 ft, passed not a single house. This scrubby zone seems to be little utilized except by goat grazing. Near the river then there is sugar cane, agave, etc. Passenger from Puente Canyon to Cuzco; his rodster had been smashed in collision night before. Then off again and drove until after dark. Crossed La Raya Pass (14,200 ft) by moonlight, good ichu country, and camped at Santa Rosa (de Ayacucho), 12,800 ft., in ichu. Put out a little more than half a bag of traps along a good stone wall. Temp. +5°.

Drove like mad from 6 a.m. to 9 p.m. with about an hour out for skinning and an hour for photography. Covered from an hour north of the Rio Asumayo to Santa Rosa. Went to make Jiboco before the post office closes for the weekend.

Sept. 3 Traps had 2 streakless osiles. Mothura piping all around - arrived Jiboco about 10:30 a.m. Spent day cleaning up, fishing etc.

Sept. 4 <sup>SUNDAY</sup> Jiboco - Puno. Camped near plane on Tacna road.

Lightning + thunder in evening

Sept. 5 About one inch of snow overnight and some rain. Couldn't get out of my camping place because of mud, so wrote letters for an hour or two waiting for sun, then it started to snow again so had to get to work and build a road (2 hours) to get back to the "highway". Then some photography in a small field



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then off to Bolivia. Mine (9) control stations between Huane + Desagodero. arrived Desagodero a little after 6 p.m.; the border shuts at 6. On top of this they tell me I am lacking some paper for the truck and this is available only in Puno, 100 miles of washboard and 10 goddam control stations back! On top of this the control stations close up at 6, so I won't get to Puno in time to get any business done tomorrow. Slept at Ponata control station.

Sept 6 All day in Puno. Customs agent Oresta Bravio took 15,000 soles deposit as guarantee on return of truck to Peru. Then off with French Fullbright scholar, <sup>Paul</sup> Geli, the night between Ponata + Juli.

Sept. 7 Off to the border at 6 a.m. Took 3 hours to get through the officialdom at Desagodero and on the Bolivian side, then poor road to Vraica, where we arrived at 3 p.m. 150 km in 9 hrs. Some good ichu between Desagodero and Vraica, but mostly heavily grazed and much cultivated. Left Geli near Vraica, then drove about 20 km toward Oruro and stopped for the night on open rolling Pampa, mostly cultivated, the rest heavily grazed. Stony. More unused. Ichu closely cropped and *Baccharis* about 8 inches tall. Stones gathered into heaps. Some Margyrua thorn bush also, and a little cushion non-fuzzy caactus.

Hail and snow for about an hour in mid-afternoon.



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The evening cold (about +4°), windy-blustery. Real altiplano weather. Partly cloudy.

Sept. 8 Heavy frost, -2°c, the wire in the traps white from frost. The slightly less than 2 bags of traps caught 1 ~~Abrodon~~, 2 *Ph. sublinea*, and 4 *Ph. darwini*. All were caught only at stone piles a foot or more deep, preferably 2 or 3 feet deep; not ~~at~~ along the windrows of stones piled only a few stones deep, and not away from stone piles. The big *sublinea* (possibly *isabellae*) was caught late because he was still bright and unfrosted. 20 miles S La Pay, 13,000 ft.

After the frost had been removed and the specimens dried, there seem to be: 4 *Ph. darwini*, 1 *Heegeromyces dubius*, 1 *Ph. sublinea* or *isabellae*, and 1 *Arvicola* with a bobbed tail. This is my first record of *Arvicola* from the altiplano. It was certainly in good altiplano company,  $\frac{1}{2}$  mile from nearest hut.

Skinned etc. until noon, then drove toward Oruro. Good unpaved road. Much of the way was a mixture of tola + ichu somewhat like Pampas tapis, or like Valley of the Winds at Santa Rosa but tola here shorter. Both *Lippia diff. lippia* *procumbens* and *rigida*? present. Passed one set of two-two dugouts at about km 100 (about halfway between La Pay and Oruro), but saw and heard no tocas. Some holes (plugged gopher-like). Stopped at 4 p.m. on a rolling bunch-grass and tola pampa. Ichu and a coarser bunch grass with a few patches of mothura grass without tola. almost all the tola is quadrangular, but considerably thorn bush *Margyrosa* mixed in, plus a few *Ephedra* and cushion cactus. No



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stone walls or boulders or other shelter for long-tailed Phyllotis, but saw one mouse (Abrodon?) while setting traps. Sharply eroding intermittent stream.

Expected to find tucanous, but saw 1 beard vane.

Many fliebers around, saw 2 copulations

Sept. 9 <sup>FRI</sup> Light frost. 1  $\frac{1}{2}$  bags of traps had 3 Abrodon boliviensis and 1 Hesperomys ducilla. Heard Mothura; shot duck.

Drove to Oruro. Tola disappears before Oruro and one crosses a flat salty? pampa. Saw one band of vicuñas on this pampa, loma diggings of two or available in one place.

Near the airport about 2 miles east of Oruro is a half-mile strip riddled with loma diggings. Big earth mounds, no sign of territories. While watching them I heard some guttural sounds, but no bubblings when I walked across the area. Shot one (4166). Only vegetation a dry  $\frac{1}{2}$ -inch <sup>fork.</sup>

The road to Cobabamba climbs up into tola-ichu something like Trinopalca, then ichu, then a Festuca-like bunch grass, then open ground with dwarf palms and grasses plus a few ichu. A few small yacca beds. a pass at 14,500 ft. Camped in rather open ichu at 14,000 ft. and set 1 bag of traps in the only available rocky place and along an abandoned wall. Saw abrodon? droppings.

Not much agriculture near Oruro, but plowing & planting at about the 13,000 ft. level.

The Bolivian villages seem almost deserted compared to Peru; few people. Maybe result of Chaco war?



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IV-16 20 mi. S La Paz, 13,000 ft., Sept. 8. Fallow fields with scattered heaps of stones, some iron, 8-inch Baccharis, and marginal grasses. Traps caught 1 abodon, 2 Phyllotis sublineatus, and 4 Ph. darwini, but only at the bigger stone-piles.



IV-17 15 mi. E Tapocari, 9000 ft., Sept. 11. Thorn scrub and cactus. 8" pipeline. Traps had 17 ~~abodon~~ , 8 Phyllotis wolffsohni, and 1 Graomys. Guinea pigs seen



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IV-18. 5 mi. W. Coconino, 7500ft. Sept. 13. Trap line along stone outcrops along the ridge. Very windy. Brushes, grass, ferns, many succulents, orchids. Traps caught 1 abronia, 1 abdom, and 5 Phyllotis wolffsohni.



IV-19. 5 mi. W. Coconino, 7500ft. Sept. 13. Patch of cloud forest. Five traps here caught 1 abdom, 2 Phyllotis wolffsohni, and 2 sprung-empty.



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IV-2° 15 mi. ESE Tigray, 10,500 ft., Sept. 15. Where guinea and bush meet bunch grass. Traps here as well as boulders among guinea-grass and still higher in pure grass with foche + ferne only in lee of rocks. Caught 6 Abrodon boliviensis, 1 Stymestes, and 7 Phyllotis osilai. Guinea pig droppings



IV-2° 15 mi. E.S.E Tigray, 10,500 ft.. Sept. 15. Looking down from road.

Boulder slide surrounded by 6-foot Baccharis-blue bushes. Bush-grass + guinea about 50 feet away from the rocks where 1 Phyllotis osilai was caught.



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IV-22 8 mi. NE Purata, 10,000 ft., trap site 3, Sept. 16  
Boulder-stream slope; cacti, several kinds of thorn bushes, Ephedra, willow-leaved bush, a few Baccharis, spiny-leaved pineapple, no bunchgrass.  
Traps caught 3 Phyllotis wolffsohni and 1 Scapanus.  
This is near km. 50 on Cobachan-Santa Cruz road. Definitely "goat country" in contrast to 10 mi. NE Purata, 10,500 ft., which is alpiblano and where Ph. wolffsohni and Ph. osilus were living together.



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IV-23 8 mi. NE Durata, 10,000 ft; trap site 4; Sept. 16.  
Vegetation about as in photo IV-22 on previous page. 1.4 km  
from trap site 3. Caught 2 Phyllotis wolffsohni.



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IV-24 40 mi. S Oruro, 12,000 ft. Sept. 17. Stony hillside  
with 1-2 ft. *Baccharis* + *ichu*. Traps caught 5 *abrodon boliviensis*,  
1 *maruosa*, 2 *Phytotis darwini*.



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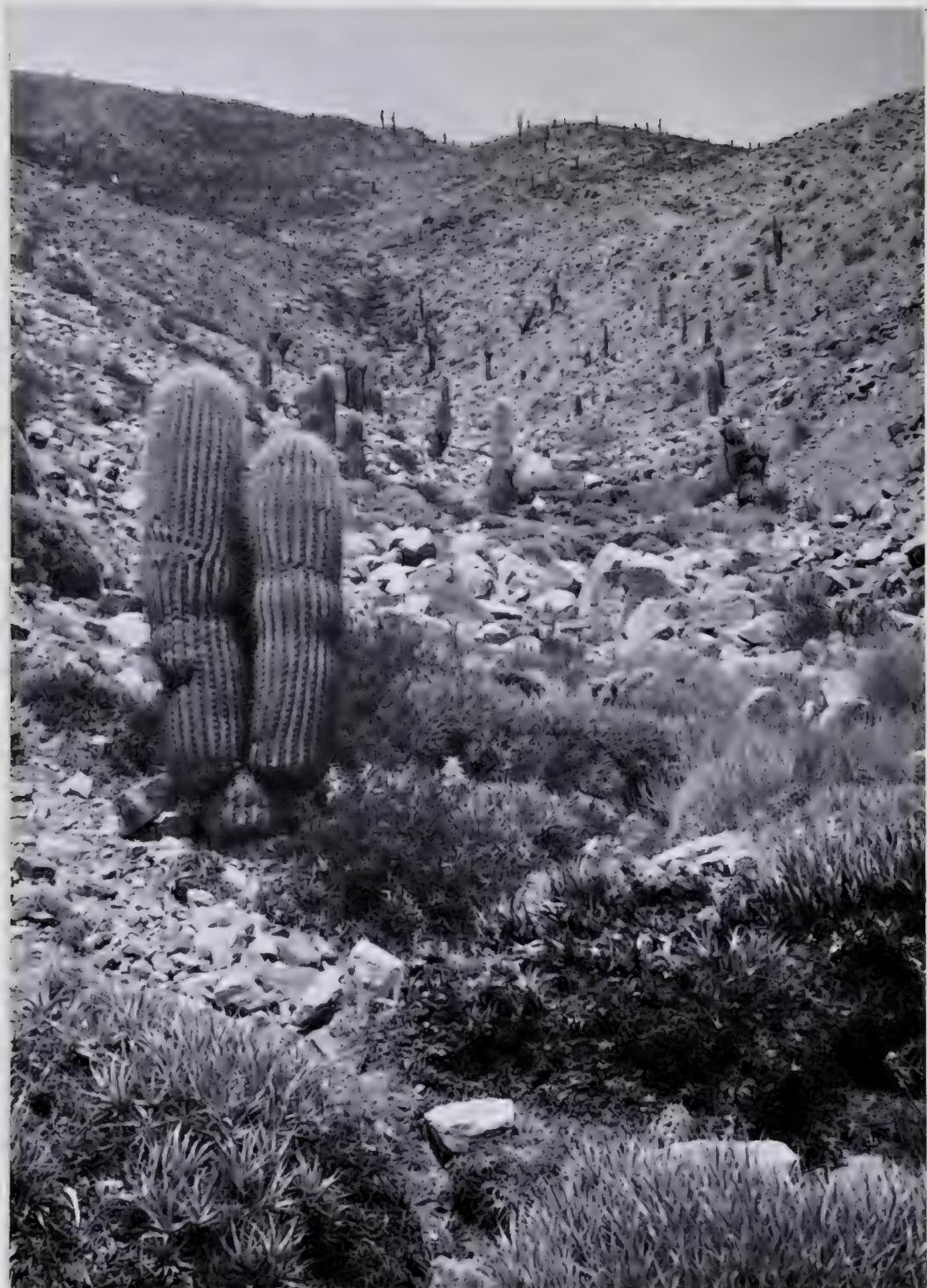
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IV-25. 5 mi. E. Uyuni, 13,000 ft., Sept. 19,  
Cactuses, ephedra, various tola, a few clumps of ichu.  
Note llama for size scale. Traps had 5 Bobomys and  
5 Phyllotis darwini. Many sprung & empty, probably  
from Otocontomys.



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IV-27  $\frac{1}{2}$  mi. E. Tucara, 8500 ft., Sept. 30.

Cactus about 5 ft. tall. "Pillar Pineapple", low *Opuntia*, saguaro, short grass, *tola*, *ephedra* and a few *ichu*. *Otocontomys* droppings. Traps caught 1 *akodón* and 7 *Phyllotis darwini*.



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IV-29. Tilcara, 8000ft. Sept. 30. Brush and trees at edge of alfalfa field. Habitat of Phyllothis cerasinus and



IV-29 Alfarcito, about 9000ft. Looking east across Alfarcito from the Garganta del Diablo above Tilcara. stone walls, grass, <sup>saguaro, short tola, bushes,</sup> <sup>pineapple,</sup> cultivated fields, willows and molle or algarrobo along the stream.



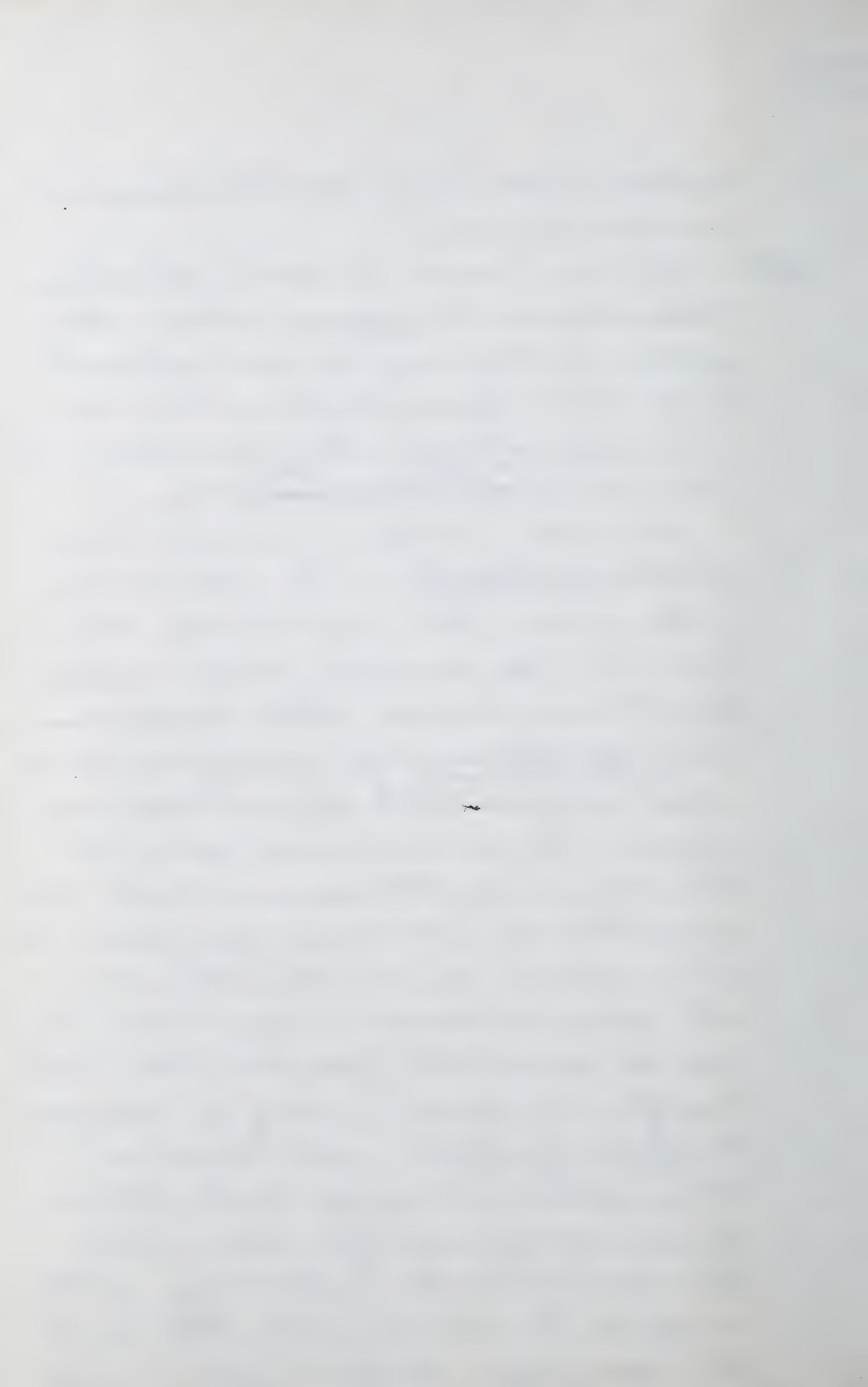
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Ran traps at 8 km and had several Ph. sublinea and one abdom. boliviensis.

Sept. 10 Light frost. Temp. -2°. Traps had 13 Ph. sublinea, 4 abdom. boliviensis, and 3 Hesperomys chilensis. A captive sublinea got out of his cage and drowned in the water bucket. Untended lamas bedded down on the hillside.

Thi camp is at Km. 96 on the Oruro-Cochabamba road,  
14,000 ft., 20 miles <sup>NE Oruro,</sup> ~~of Taqupaya, Bolivia~~ <sup>Oruro</sup>.

at 13,500 ft. near the Oruro-Cochabamba border started to see Nothoprocta in rich. Shot 3 and saw 6 others in a few miles. ♂ + ♀ non-breeding and a  $\frac{3}{4}$  grown ♀. Also saw a flying flock of 5 hawallatas, the first for weeks. No lizards. A little east of the Oruro-Cochabamba border started seeing a few guinea pigs along the road <sup>and all the way down to 9000 ft.</sup> walking. They may account for the droppings I thought were abrocomas. The road crosses much country that looks OK for viewers, but saw none. Finally drove off on east side, first through a good Guenua zone at 12,000 ft., then becomes brushy and thorn scrub with Schinia and numerous shrubs and trees near to me. Road drops down to the Taqupaya river at about 8500 ft (Eucalyptus, orange, cana brava). Decided to go up to Taqupaya, the wolffsohni type locality, which they said was 6 leagues upstream. The road goes straight up the river bed, which is 150 yds wide boulder strewn, with the stream about 2.5 ft wide. It started to rain and with no escape from the river bed and miserable road that fords the stream again & again, after 6 km. I decided to come back.



down. ~~and~~ Drove back up the Oruwa road to 9000 ft in  
thorn scrub, and after a few more showers set traps.

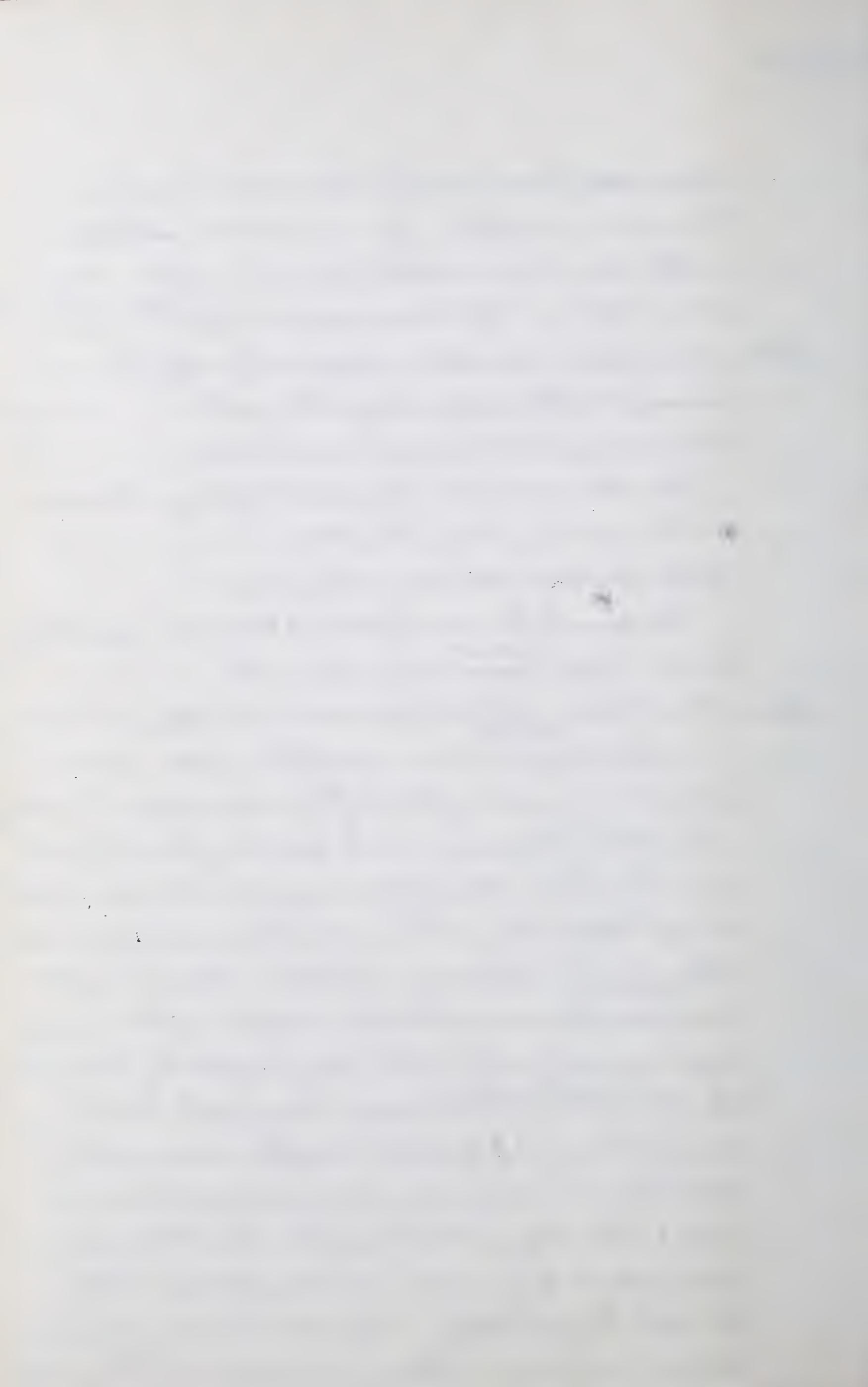
a little over 1 bag on 6 short lines, all in thorn scrub,  
some cactus <sup>15 mi. E Tapachic, 9000 ft., Coahuila</sup>  
light clear, warmish. The pipe-line camp.

Sept. 11 Morning clear. Troops had 17 abdom, 8 Ph. wolffsohni, and 1 Graomys; the latter hardly distinguishable from the " ", but with a curious species of horse? fastened around the tips.

The cooties over here is a big one with <sup>flasky</sup> white bands on tail and wing. Song in three parts - <sup>like</sup> <sup>run,</sup> repeated many times and many modifications.

Dock down at the river (Tofocari?) at 8500ft saw a large herd of  
llamas - amidst <sup>[avocados?]</sup> figs, oranges, cava brava etc.

Sept. 12 Two laborious efforts to find some good trapping subnivea  
of Cochabamba, <sup>last night</sup> ended in eucalyptus groves. Great  
job for truck in moving, then left for Comarapa at 9:30 am,  
on the Santa Cruz road. First 30 miles gloriously paved;  
one is torn between going fast and going slow to make it last.  
Road goes through bushy country and up into bushy rose-thorn  
(Mangifera?) at 11,700 ft about 70 km out, and even pure  
bushy grass plus some cultivation. Highest about 12,000 ft.  
A good quebrada zone at about 9600 ft, especially about km.  
130, but later this altitude leaves cloud forest. More &  
more forest as one approaches Comarapa, even a couple of  
sawmills. The road goes along a ridge between the Rio Chilo  
(north) and Rio Mizque (south) at 9500 ft. To the north is solid  
forest as far as the eye can see, and solid up to the altitude.  
To the south the forest is patchy, interspersed with brush + cultivation.  
Cloud forest rich at 8200 and 9500 ft., even bamboo and tree ferns.



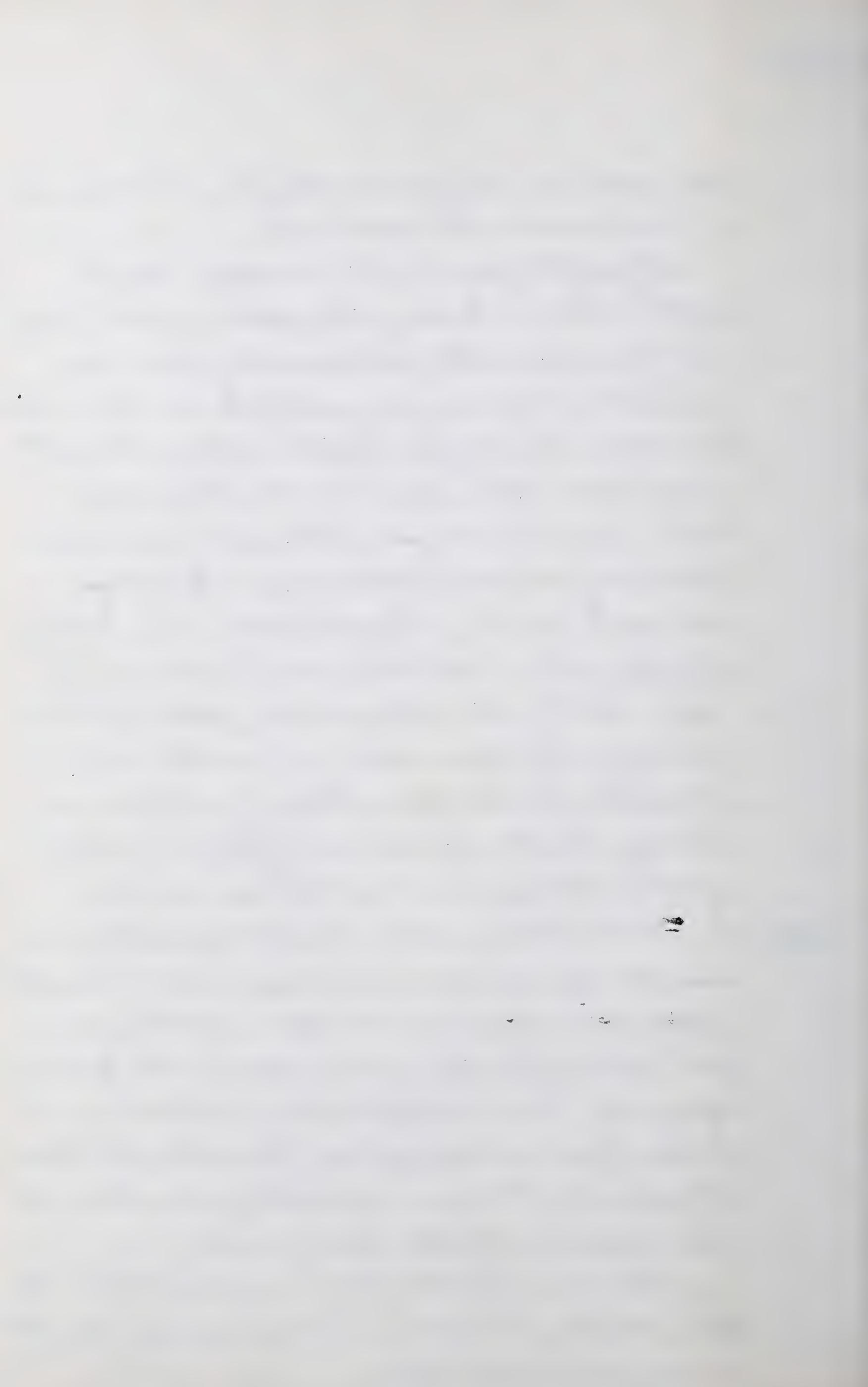
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and ponds and sedgy grass and *ophrysnum*, all reminiscent of Tres Cruces and above *anabamba*.

Stopped at 5 p.m. 5 mi. W. *Conarapa*, 7500 ft. Vegetation here is brushy with patches of cloud forest, and the *Conarapa* valley looks similar (but more cultivation). Can see a few small flats down below with tree cacti, but no good Phyllotis country. Set about 1 bag of traps along a ridge with rock outcrops plus bushes, grass, and many succulents, plus a few orchids (not blooming) and ferns - about a dozen of these traps in cloud forest (not wet). The past several miles have been extremely windy. Expected the wind to die down at dusk, but it's still blustery howling, rocking the truck, pushing you off balance when you are out in it. It will probably blow bait off some traps, if not blow away whole traps. Habitat looks poor for Phyllotis too much ground cover and few burrows. Night clear & windy.

Sept. 13 WE. Traps did better than expected. The short bag along the brushy succulent ridge with sparse rock outcrops caught 5 Ph. wolffsohni, 1 Abrodon?, and 1 Abrocomaa. Five traps in a pocket of cloud forest caught 2 Ph. wolff. and one big Abrodon? and the other 2 traps sprung empty. This is an epiphyte patch of cloud forest in a V in the road, cliff on one side, fringed along the road with 10-foot tobacco, not damp or wet at this season, but definitely forest with 50-foot trees 2-ft DBH. These Phyllotis definitely in woods.

A lot of clearing of forest is going on and has gone on in the past. *Conarapa* is not in forest, but it is surrounded by large patches and may once have been forested.



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Catching Abrocomas on this brushy-orchid ridge only a few hundred yards from cloud forest makes it easier to understand Abrocomas obsoleta at Machu Picchu (in graves).

Went down into Comarocha for gear. Forgot to take altimeter but it appeared to be 500 to 1000 ft lower than my camp, which was 2500 ft. The wolffsohni here definitely darker ~~than~~ than topacae. ~~was~~ Still windy in early a.m., but slowing about 10 a.m.

Drove up the hill to the summit where cloud forest is darkest on the ridge where all is forest to the north or northeast. Camped amidst patches of cloud forest, soft bunch grass meadows, ponds, and a little hard brush. Even small patches of trees only 20 feet across are "moss" covered with lots of sphagnum, orchids, fuchsias etc. Ground in many places with lycoptelia, vaccinium, etc. One pond had a tern on it and 2 caracaras stalking through the grass at the edge. Alternate sun and patches of fog blowing past from the north. Put out 2 logs of traps on 6 short trap lines; forest, grass, brush, rock slide from road. Hope to see how woody and boggy wolffsohni will get and add to the series of dark specimens.

8 p.m. clear, frogs chirping all around. This camp 20 mi. E Totora, 9700 ft., Cochabamba.

Sept. 14 Morning alternately cloudy & foggy; felt like mains shrew-trapping weather. Several tried to push Phyllotis too far into the cloud forest; caught none. Only 3 dark abrocomas, 1 Gymnophthalmus, and 1 Oxyrhopus.

Left early towards Cochabamba and drove until noon. Stopped at a place where guanaco and brush meets bunch grass, where I hope to get both osilis and wolffsohni. Set two logs of traps,



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the lower part of the hill in guenua - grass with a mixture of other shrubs and a spring - fed small ~~pine~~ <sup>forest</sup> ~~forest~~. Rock outcrops and stone retaining walls. In the upper part of the hill only guenua and grass and finally pure grass with <sup>forks + ferns</sup> only in lee of rock outcrops. This is a fine bunch grass, not real ichu, and there is little bare ground because of ~~the~~ grassy covering and the pottery flakes of guenua bark, which have blown quite a distance from the trees. Altitude at lower traps 10,400 ft., upper over about 300 ft. or more higher. Location unknown, probably near Tiquene Chico. Heavy clouds pouring over the hills to the east only a few miles from here (the forest I went through), but still sunny here (4:30 p.m.)

Sept 75 This camp is 15 mi. ESE Tiquene, 10,500 ft. [Tiquene Chico of A.G.S. map] <sup>km.</sup> 97. Dew but clear. Traps among boulders below the road in brush, 6-foot *Baccharis* like brush with only a little grass caught 1 osilis. Bunch grass - guenua about 50 feet away. The lower, bushy part of the other hills caught 3 Ph. osilis and 2 Abodon boliviensis. The upper, grassy part caught 1 Orymystes, 4 osilis, and 4 abodon. Hence, no wolffsohni, and osilis living in more brush than I would have expected. Guinea pigs here.

Tiquene seems to be a nebulous locality, even to the natives here, and is further confused by there being a village "Tiquene" on the A.G.S. 1:100,000 map plus a larger town "Tiquene Chico." The people I asked referred to the "Tiquene Chico" as Tiquene and looked blank at the name.

Tiquene Chico.

Drove across the ichu country, then set traps at several elevations about 5 miles <sup>or so</sup> W of Tiquene, 10,000 ft., but to avoid the confusion I shall call it 10 miles NE Potosi. This is another



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windy windy place, all traps have to be placed in the lee of rocks where you hope not only the bait but the traps will remain. Heavy clouds to the north but clear here. Wind seems to be from several directions, mostly ~~south~~ north.

FRI.

Sept. 16 Trap site 1 - scattered curly bunch-grass, scattered low bushes (<2 ft) such as *baccharis*, willow-leaved *tola*, lots of open gravelly ground, tumbled rocks from road. Caught 1 long-tailed *Hesperomys*, 3 *Phyllotis* and found recently killed *Phyllotis*.

Trap site 2 - 1.3 km above the other. About the same but with bigger & better boulders from the road, some *Stephanomeria*, but mostly bare. 6 *Phyllotis* (2 <sup>♂</sup> ~~♂~~ <sup>♀</sup> ~~♀~~ <sup>♂</sup> ~~♂~~ <sup>♀</sup> ~~♀~~ <sup>♂</sup> ~~♂~~ <sup>♀</sup> ~~♀~~)

Trap site 3 - 5.8 km below (west) site 1. a boulder stream slope: cactus, several kinds of thorn bushes, *Ephedra*, willow-leaved bush, a few *baccharis*, ~~one~~ spring-leaved *pineapple*, no bunchgrass. 4-foot tall column cactus plus various ball cacti. This is "goat country" - thorn + cactus whereas sites 1+2 are ~~altogether~~ essentially, 3 *Ph. wolffsohni* and 1 *Groomyz*. The Groomyz in an adjacent road.

Trap site 4 - a gully with vegetation similar to site 3. sites 3+4 are 1.4 km apart, straddle road km. 50. Whoever had been looking at an agave-like tree in the gully returned to the job and site and a dozen traps. Remained had 2 *Ph. wolffsohni*.

Total traps out 12 bags. Morning light drizzle, no wind. Glad to get *wolffsohni* and *osburni* or *darwini* together.

Skinned and drove to Coabumba. Left Cocha 4 p.m. and decided to stop collecting because the road to Oruro was



1955

going to be closed tomorrow. Ran into heavy snowfall almost as soon as I got up into the ichu country and some snow from there all the way across the high country until just before I stopped down in the Tola valley at about km 60, about  $1\frac{1}{2}$  km out from Oruro. There was about 3 inches of snow on the road near the Cochabamba end and coming down hard, less on the Oruro end. 2 mice crossed the road, could have been large Ph. sublinea. Because of the snow and the harrowing drive I was impressed at how much high country there was between Oruro & Coba.

Sept. 17 Off again at 6 a.m., clear, and arrived Oruro 8:45 after blowout and refueling. All morning getting a tube for my other spae, then off for Uyuni. Some of the road goes across a bay of Poopó, 6 miles above water level, with flamingos, shore birds, curlews, ibises, ducks, & gulls. Other parts of the Poopó pampa are sand dunes, other pure Festuca orthophylla, also Boccaria and ichu and mixtures of Boccaria-ichu-Festuca some cultivation, even in Festuca.

Couldn't resist a stony hillside with Boccaria & ichu and no houses at 40 miles S Oruro, so stopped at 3 p.m. Many stone walls, a few candleabra cacti. Parakeets here. <sup>Tola 1-2 feet</sup> tall.

To get to mention also wide pampas with dwarf forb vegetation like at Pichu-pichu.

Sept. 18 The trap line that was going to be so colorful gave 1 Marmosa, 2 Ph. darwini, and 5 Abrodon. Huzzah! Morning clear, calm, frost on windshield.

A few miles south of camp in Tola-ichu shot 2 Molothrus, one a laying female. Country about same to



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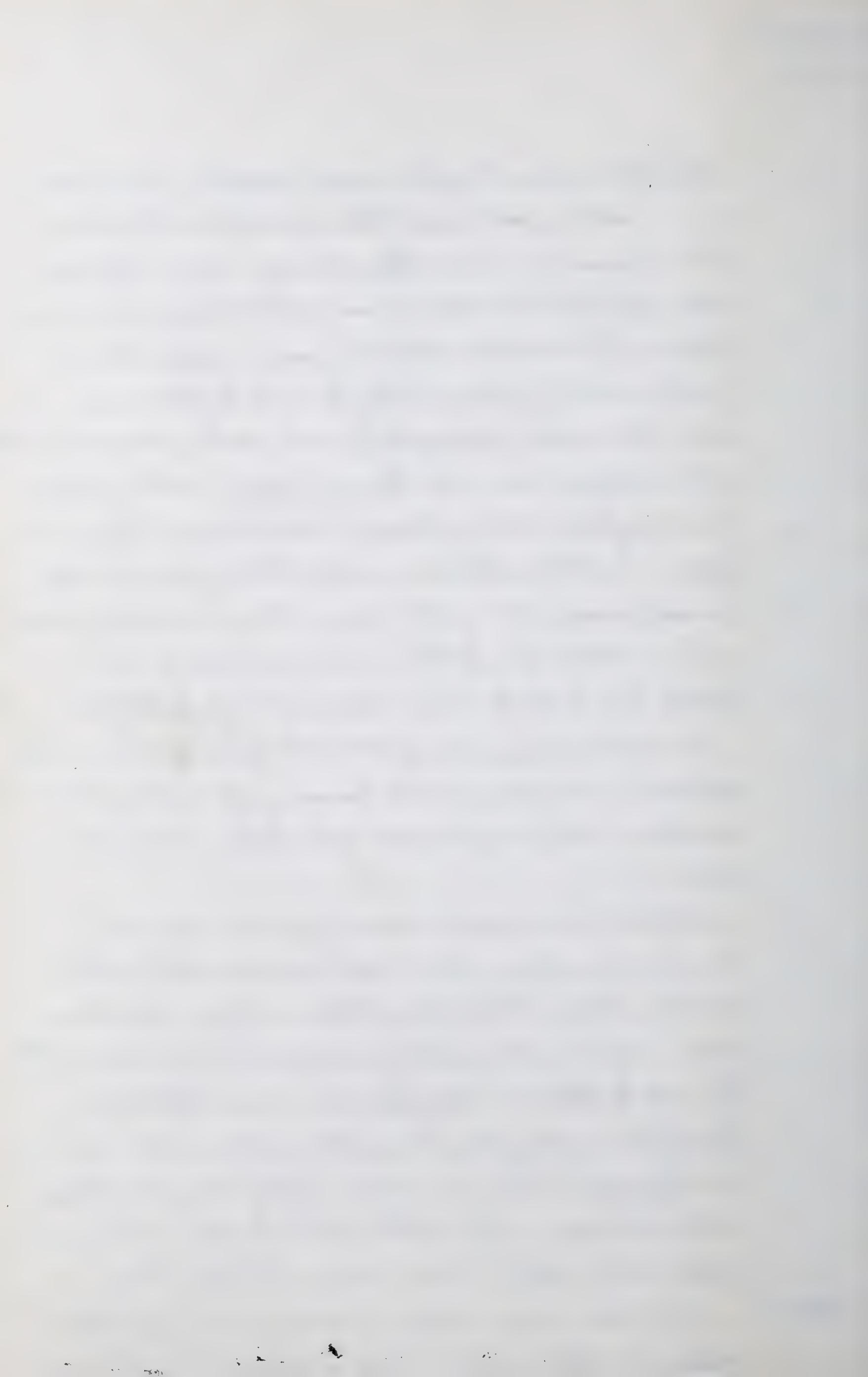
Challpata where it gets much sandier. One man in " when asked about the road to Rio Mularaz said it was good but a little sandy. Dozens of places where people had ~~to~~ used tola and grace to escape from sandy places in the road showed that he was right. Much pampa with Festuca orthophylla and drifted sand, also tola (mostly quadrangle) and sand, and combinations of these plus ichu and Moray rupicola? also pampas of dwarf forbs. Many tucos, which they call tojos or tocas. A little cultivation, and a little graying (sheep, burros, llamas) but mostly tocos + tola. A railroad station an hour north of Rio Mularaz had 5 acre-feet of cut + bundled tola piled up by the tracks waiting to be shipped.

Saw a herd of 6 vicuñas just north of Rio Mularaz and 2 stray vicuñas graying with llamas just south of Rio Mularaz. Gorgeous pampas should have had lots more.

Stopped for a couple of hours for skinning and laundry, then drove until 5:30 to 16 mi. ESE Rio Mularaz, 12,800 ft., Potosí. Set one bag of traps in tola + bare stony ground (but no rock shelters or boulders). The tola 2-3 ft tall and ~~5~~ species including Bocconia, narrow-leaved Bocconia, Leptophyllum quadrangle, and 2 thorny species, one remnant of Moray rupicola but bigger. Only a couple of clumps of Stipa on the whole line; a few cushion cacti and one lone 8-foot phallic cactus. Saw 3 cars on the road all day.

Sept. 19

Might clear, calm, no frost. Temp 6 a.m. +2°. In traps nothing; one sprung empty. Herd 2 groups of Tinamotis, no



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Festuca right here but some nearby.

Drove to Uyuni for mail & gas, then east of town for trapsites.

Site 1 - Pampa, 1 mi. E Uyuni, 12,100 ft. Very bare sandy pampa with half-hearted patches of yareta, dwarf grass, dried thorn plants about 8" high, and a few piles of rocks where traps are set. Saw 2 very small lizards.

Site 2 - 2 mi. E Uyuni, 12,100 ft. Drier sand and tola.

Site 3 - 5 mi E Uyuni, 13,000 ft, a rocky hill with 8-foot phallic cactus, shorter fuzzy cactus, palover cactus, Ephedra, and various tola. A few clumps of ichu.

Sept. 20 <sup>TUE</sup> Uyuni. The high wind which was setting traps yesterday afternoon died down at dusk, came up again during the night, was gone at dawn, then came up again during the morning.

Heard Trochomela calling, saw parakeets.

Line 1 had 3 Eliogonantha; Line 2 had 1 Eliogonantha, line 3 had 5 Ph. darwinii + 5 Bolomysz alhinetex?; many sprung & empty, probably by Abrocomas? or Octodonops? whose scats and white urine were abundant.

Haircut and negotiations for repair of spare tire in Uyuni, then set 1 1/2 logs of traps part way up the hill east of town. Not as high as Site 3 of last night, not as much cactus; mostly bare stony ground and 1-foot narrow-based Pachana, some cushion cactus and fuzzy cactus but none of the big phallic cactus. All sets above rod-supporting stone walls. Evening clear & calm.

Checked out trap line at 8:30 p.m. and had 2 Phyllotis and discovered the last that sprung the traps. Out of a stone wall he chuckled at me and with the flashlight I could see only a few



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over away a big Octodon or Octodontomys (big, gray, long tail with black brush at end). Could almost touch him.

Sept. 21 5 Ph. darwini and 2 rusty Babomys. At least 15 traps sprung & empty by Octodon. Two of them had joints of cactus in them, one of the joints half eaten. This is the least with the white urine; it's the wood rat of this area.

As the result of a great confusion of information & misinformation about roads from Uyuni to Taflaga, I find myself caught in the center of a 200-yard wide boulder-stream river bed 6 1/2 hours out of Uyuni, including an hour stuck in the mud. almost certainly I took the wrong side, because ~~said~~ I have been working down creek bottoms much of the afternoon and my last 2 hitchhikers tell me <sup>that</sup> this is the Rio Blanco I am descending and that the town of Rio Blanco is 50 km. downstream. The road went from Uyuni to Ullacayo, then west of Cerro Uhuia, near Cerro Tasa, then disappeared into creek bottoms. Much sparse Psathyro near Uhuia, salty, stony, scattered short Tola, numerous viñoca but scattered and not many nice charred bards. No obvious young. Bare eroded hills with very sparse Tola; and probably no people. as uninhabited as any part of the altiplano I know. No cars on the road. Asked one of my 3 hitchhikers how many cars a day went by, and he said once a week.

The river bottom now is beginning to get "goaty" with a mixture of bushes, cactus (low and cardelina), and a fairly big thorn tree 12 ft tall and 8 inches diam. Practically no grass. A few houses now but none upstream. General situation almost identical with the Taflaga road that I decided not to ascend.



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Started at 6:30 in mid-river bed with rainbow downstream, thunder upstream, sprinkles of rain here. Damn the flesh of books; set some traps - a little over 2 kg before it got dark. altitude 16,000 ft. Big Schinus trees. 30 mi. NW Cotagaita.

Sept 22<sup>th</sup> Only one mouse in traps, a Geomys. About half of these sprung & empty - probably Octodon. Off downstream at 6:30 a.m.. In 3 hours forded the Rio Blanco 90 times. In fact 100 crossings in first 38 miles, and some of the fords deep enough to drown a passenger car. Not much change in vegetation; fruit trees in bloom but not especially Feb. & March.

Cotagaita about 11 a.m.; welcomed by officials as though I were the first car in weeks. They had to hunt up the key to the office to get the stamp to make my Hoja de Ruta. Then about 4 hours to Tufiqa. Interesting passenger who knew some of the plants & animals. Calls Schinus "molle," hence the species name. Still thorn-tree cactus goat country all the way to Tufiqa. Camped in a spectacularly eroded Gneiss 1 mi. N Tufiqa, 10,000 ft. with thorn tree, cardabia cactus, low Opuntia, various shrubs, a few clumps of Acacia. Lots of rocks. Habitat a bit more open (more of ground between plants) ~~than~~ than the good Ph. wolffschii country that I have seen so far. It seems to be ~~an~~ Octodon here, too.

Flocks of goats drifted down the canyon just before dusk, plus ~~burns~~ cooked with firewood

Jackpotting at 8. Heard an Octodon in a patch of low Opuntia but couldn't see him. Poor will.



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Sept. 23 <sup>Tufiyo</sup> Nothing in traps, 2 sprung empty, a few bats gone by ants, and such a nice canyon!

Truck wouldn't start. All morning & afternoon getting to Tufiyo and locating a "new" condenser, and getting permission from the rationing board and the Alcalde to change the oil & grease the truck. Greasing, tuning etc. expertly done by Demetrio Pinto, the truck driver forced to help get me started. Truck and suffer with his family - 5 doves that he collected with one shot of his 16 ga. gun. He has 2 other shotguns. He knows 2 kinds of trivacua and recognized the Trivacua call.

Sept. 24 <sup>SAT.</sup> Off about 10<sup>am</sup> after selling Demetrio the Polaroid camera - at no profit. He and his family came along and faced me for the first 7 miles to be sure that I could get across the San Juan River. Water about 3" over running board, but no trouble. The country south of Magarevo becomes slightly brushier and nice clumps of ichu become common in addition to a sparse fuzz of dried short grass in places. The ichu and short grass were almost lacking at the Tufiyo canyon. Camped at Yurruva, 20 mi. SW Tufiyo, Potosi, 10,500 ft. Here are thorn trees (no leaves now), another tree of similar shape with pale grey-green bark & big pods and tiny dissected leaves (but no leaves now), a 4-foot espedra with twigs bigger than a pencil, ichu, saguaro, a few low spreading opuntia, and goats. Put one bag of traps in espedra-thorn and another in thorn-ichu-saguaro-espedra. Numerous guinea pig or octodon droppings.

Jacklighting revealed one graomys in a loop of thorn branches left by woodcutters. Some eyeshine.



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Sept. 25 Yurumá. The ephedra-thorn trap line had 4 Hesperomys, all in somewhat grassy places (ichu). The cactus-thorn-ichu line had 2 Hesperomys (grassy), 2 Bolomys (thorny), and, at last, one big Octodon. [One of the Bolomys upon skinning turned out to be a Phyllotis. Belly slightly greyer, throat hair brighter, foot pads different. Seems more like dominicus than griseocaudatus.]

Just beyond the pueblo of Yurumá the vegetation changes abruptly. No ~~more~~ cactus, no ephedra; a dry tola appears like a narrow-leaved Baccharis about a foot tall. This makes pampas & rolling hills of bushy thorn (not real trees as at Yurumá), tola, and ichu. Still lots of bare ground.

Camped at 5 mi. N Villazón, 11,500 ft, at one of two rock outcrops seen today, and this outcrop not providing much shelter for Phyllotis. Vegetation is tola, grass (not ichu but an oat-like stem) and widely scattered thorn bushes. Used to be some bigger thorn trees but recently cut. Cold & windy. About 1/4 bags of traps out. Few phyllotis places to set. Boots, sheep, & burros.

Sept. 26 Traps held 5 Elymnias (under thorn bushes on pampas), 3 Hesperomys, 1 Bolomys (under thorn on pampas), and 2 Phyllotis dominicus (in rocks), one of these in front of the only good burrow that I saw. Night clear with light frost & dew.

A ghastly dog wrestling with the aduana. He won. Truck is impounded, I am in a "hotel," go to Argentina tomorrow by train at 9:30 a.m.

Sept. 27. The police official who stamps pasaportes showed up at 9 a.m. Rush dash with suitcase down railroad tracks (into <sup>Edmundo</sup> toward train waiting at La Quiaca station. Guard at gate says I need permit to pass with 100 mouse traps. Rush dash back to Villazón aduana who says I don't



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need permit, but who under the urgency of the situation ~~can~~ dashes off a memo that gets me past the Bolivian guard into Argentina. 10 minutes to go. an Argentine guard escorts me to the Argentine customs, where we wait until the Argentine aduanas shows up for work at 9:30. So we sit and watch my train pull out. That's all right says the guard, there will be another train day after tomorrow. Three days to travel 1,000 m.

At 3 p.m. found a truck load of coca leaves for Juicing and got a ride on top. The road from La Quiaca to Abra Pampa is vide pampa with mountains in the distance to the left and right, sometimes sandy, lots of tuco diggings. an Argentine passenger called them "tojo"; not tuco-tuco. Abra Pampa is flat pampa, short grass, many reichsne tola, some bunch grass, and some rocky hills  $\frac{1}{2}$  miles SW of town. These are the first hills close to road and look fine for Ph. darwinii.

~~Right~~ Right turn here for Casabindo. From abra pampa to Tres Cruces is more hilly, good altiplano, OK for darwinii. Park at Tres Cruces but  $\frac{3}{4}$  moon enabled me to get an idea of the vegetation. Quite a stretch of tola and of good altiplano, then descent into a thorn zone. Thorn bushes and saguaro appear a little above Humahuaca, the Saguaro cactus being especially dense for a while. Then a more arid stretch between Humahuaca and Tilcara. Humahuaca, despite size of letters on map, is much larger than Tilcara and quite charming, with old colonial street lights etc. No really brushy zone seen, except the thorn tree zone.



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Sept. 28 Tilcara. The valley here is full of Lombardy poplars, willows, a few Ichios trees, and fruit trees such as pear, peach, apples, cherries (in bloom), but the hills on both sides are quite arid. Put out 1 1/2 bags of traps east of town and about 500 ft. higher in an interesting combination of short grass, tola, ephedra (thick stems but not nearly as tall as at Yanas), low opuntia, a few clumps of ichio, scattered saguaro cactus, <sup>some another</sup> ~~and~~ <sup>cactus</sup> and much "pillow pineapple". This is a pillow-forming plant that from 50 feet looks like a medium-sized Tillandsia, but the leaves are exceedingly sharp-tipped and stiff & the blossoms are long, tubular, yellow, much larger than in Tillandsia. This pillow pineapple dominates most of my trap line. Many good big rocks, but most or all the holes dominated, I fear, by Octodon whose droppings & white urine were abundant.

I bogged down from extreme thirst before all the traps were out. Arrived here with a great water deficit from Villazon and hadn't been able to make it up at the Hotel Esperanza and on "pos" in the village, so am now drinking quite of local water.

Put out about a dozen more traps along a slightly brushy stone wall near the cemetery at dusk.

On upper line - parakeets, hummer, sheep, goats  
Sept. 29 <sup>TH</sup> 3 Ph <sup>=</sup> coprosmia gracilis in the graveyard line and 7 Ph darwini in the hillside line east of town. Also 1 abrodon on hillside line.

at dusk put about 1 bag of traps around an alfalfa pasture on the edge of town - stone wall, some brush, and ~~large~~ large leafless thornless trees. Lots of twigs, leaves & litter on the ground. This tree has loose shreddy



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(must be a deciduous schinus)

bark and compound leaves with alternate leaflets. Nearby there is a historic algarrobo also with bronze tablet. Under this tree occurred some heroic deed during the war with Spain. <sup>(1819)</sup> The whole valley may have had many more trees at one time.

at 10 p.m. (after dinner!) put  $\frac{1}{2}$  bag of traps (by <sup>full</sup> moonlight) around the cemetery.

Sept. 30

Tilcara Cemetery like bad nothing. Stone wall around edge of pasture had 3 Ph. <sup>= coprosmia</sup> graomondes and 1 big Ph. <sup>andinomys</sup> nogalaria. The latter along stone wall, somewhat brushy, with Schinus trees. <sup>in the village.</sup> Morinaria, <sup>although a few</sup>

In afternoon walked to La Garganta del Diablo, a dramatic canyon <sup>7 km. by road</sup> east of town. About a mile further on ~~are~~ are a couple of farms that according to one of the people in Tilcara is ~~Tilcara~~ Alfarato, a location given by Thomas as 15 km NE Morinaria. There used to be a good road to Alfarato, but scale slides have narrowed it to a burro~~ox~~ trail. At Alfarato are a stream with waterfall, Saguaro, short tola, bushes, old stone walls, grass, a few cultivated fields, some palm-pineapple but not as much as on the hills nearby, a few willows, and some Schinus or algarrobo. The stone walls with some brush and the tola with loose rock look like a good meeting place for Ph. darwini and Ph. <sup>= coprosmia</sup> graomondes — as Simon or Budin found.

A cold wind blowing up the valley most of the day with misty clouds on the nearby hills, but mostly sunny here.

Local yokel says Sierra de Zonta is east of Humahuaca, not 10 km E of Tilcara as I have recorded from Thomas. This makes sense with the A.G.S. map.

Oct. 1

almost 2 bags of traps out along brushy stone walls. Early part of night cloudy, but clear in a.m. with light frost in



1955

gramoides = caprinum

places. another Lh andinomys <sup>andinomys</sup> nigrolaria in same place, and a gramoides only 6 feet away. Two other gramoides elsewhere on the line. Haven't detected any difference in habitat preference. Both are nocturnal, both with green vegetable matter in stomach.

~~On the~~ at 3:30 took the omnibus to Leon (two hours). In general it seems to be a descent down the valley to greater rainfall.

Miramar - triple more grass than Tilcara, otherwise same.

Punancaca turnoff - same as Tilcara

Tumbaya - some quite bushy playas, hills with saguaro and bushy sage.

Volcan - Valley with willows, irrigated greenward, dandelions. Saguaro almost gone and hills grasser  
2000 m. - short grass and bunch grass on east facing slope of valley; grass + thorn bush on west facing.

Leon - West facing slope almost completely covered with a bushy forest. East facing slope has tall brush on lower slopes and grass higher up. Both short grass and bunch grass. The brush is 10-15 ft tall, <sup>many thorny species,</sup> <sub>some trees</sub> pretty well worked over by goats, cows, horses. Open places are grassy, little bare ground except under the brush, and much of this covered with small leaves + twigs. In the valley are willows, eucalyptus, fig, peach, roses etc. Rarely snow here, more often in Tilcara.

Put out a little over one bag of traps after fracas with a goat woman.

Mostly along stone walls on edge of brush and pasture + bushy cemetery.



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Oct. 2. Leon. Not a trap touched, even by ants. The osilal from here must have come from up in the bunchgrass. Osgood's yala must be the one between here and Jujuy, not the one on the A.G.S. map NE of Tilcara.

In pm put out 2 logs of traps on hill ~~1~~ mi. W of the station and about 500 ft. higher. Most of them along 2 stone walls. One wall through bunchgrass - rich & others. The other wall with bunchgrass but also lots of broken, bushes, a few trees. Scared up 2 smallish tiranous with more interrupted flight than Nothoprocto. At ~~flame~~ birds calling, but the bunchgrass line looks OK for osilal.

Could see for up & down the valley. The forest on the east side only goes for a mile or so above Leon. To the south the valley becomes much wider, flatter.

Oct. 3 <sup>no. 1</sup> Leon. 4<sup>th</sup> osilal, 1 Hesperomys, 1 Gymnacanthus? and 1 Maranassa, the latter in one of the highest traps, near osilal. The opy also near osilal. One osilal was in the brushy-bunchgrass line.

Scared up 3 tiranous: 2 smallish, one almost as big as adult Nothoprocto, but different flight.

Sign at Leon station says 1622 m. The river is not more than 50 ft. lower, so the labels on Simon's or Bodin's labels (1500) are approx.

Gruesome train ride from Leon to La Quiaca - 10 hours to go a little over 100 miles, garbage-filled coaches, no seat.



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Good bunch grass up to Volcan; almost certainly visited here. Sign at Tilcara station says 2460 m., not 2300 as on British Museum specimen or Thomas paper. Fit labels of my specimen accordingly. A little above Purmamarca is a stretch of thorn-tree, saguaro, opuntia, with a sprinkling of bunch grass. saguaro cactus called "cardón" here.

Oct. 4 All morning getting across border etc., then just as I was ready to leave Villazon a carabineros foisted two hitchhikers off on me. They are probably coca smugglers. I explained in time that I was going to set traps and camp out and they said they were accustomed to this, but when I stopped at 5:30, one of them asked where they were going to eat & sleep. I set traps until dark, then took them down to Quebrada Honda where they said there was a hotel. Two short bogs of traps in rocky tola. 25 mi. NE Villazon, 12,200 ft. Most of the route here from Villazon has been stony tola, with one griboda of thorn, saguaro, & grass. Night cloudy, sprinkles of rain, clouds.

There is another tree Croce west of Gujiy, but probably not the one where Simons (or Budin?) collected.

Oct. 5 Traps were in mostly rocky Baccharis? 1-2 feet tall, with some other spiny tolae as well, especially along the bottom of the wash. A few 6-foot thorny bushes, a few clumps of grass, and some short cacti. Traps caught 4 Ph. darwinii. This locality, 25 mi. NE Villazon, is near a few huts and "hotels" known as Quebrada Honda.

Drove to Tarija. First part of drive more tola, then good pareja including a summit at 13,000 ft. In one place



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a few patches of Festuca. The Sama locality is rich but very rocky. Much of the country with caracaras, luna miners etc; a lake with coots + flamingoes. Then a long rocky road descent to Tarija, which is goat country. Much bare ground or sparse grass with thorn tree, Schinus, a few cacti, and goats. Under cultivation are corn, vegetables etc, plus fruit trees (not citrus), cana brava. Thunder and heavy rain at 4:30 delayed trap setting, but got out 2 bags before dark in good "goat country" along stone walls (not many stone walls around) and on bouldered hill. Many guinea pig droppings.

Vegetation thorn bush + thorn tree (including algarobo), Schinus, smaller "sage" bushes, and sparse grass and cacti (some low opuntia, no Laguna). One of the stone walls was supplemented by thorn branches piled along and on it. This locality a few miles south of Tarija, 6700 ft. Much badlands hereabout.

Oct. 6 Traveled with 7 Grammys, <sup>7</sup> Akodon, and 1 Marmosa. Morning sunny, clouds pouring over the mountain range to the southeast. A great many traps sprung + empty, many baits stolen by ants.

Looked for spring shack bolt in Tarija, then drove back toward Sama in search of Ph. grammodes <sup>or</sup> leopardinus or wolffsohni. Camped at 8200 ft. in scattered Tala, thorn bushes, and bunch grass (curly), with short grasses abundant also. Soil very shallow. A few algarobas up to 10 ft or so. Traps around a brushy house ruin, along a stone wall, and along a creek. Late afternoon + evening cloudy. Nothura calling at dusk. 10 miles NW Tarija. No cactus



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II-0. Leon, 5300 ft., from railroad station looking west, Oct. 3  
Traps at 1 in tall brush (10-15 ft) and pasture, heavily used  
by goats, cows, & horses, were untouched. Traps at 2, (5800 ft.),  
along a stonewall through iron and a stone wall through  
bunchgrass - bushes - broken caught 1 Hesperomys, 1 Oryzomys,  
1 Marmota, and 4 Phyllotis osilai.



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IV-2 5 mi. S. Tarija, 6700ft. Oct. 6. Thorn-covered stone wall 4  $\frac{1}{2}$  ft tall. Thorn tree, algarrobo, malle, "sage"; sparse grass, low opuntia. Sawed big droppings.  
Traps caught Akodon and Spermophilus.



IV-3. 5 mi. S Tarija, 6700ft. Oct. 6. Vegetation as above.  
Traps caught Akodon, Spermophilus, and Marmosa.



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II-4. 10 mi. N W Tarija, 8200 ft. Oct. 7. scattered tola, thorn bushes, curly bunch grass, short grass, no cactus. nothura abundant. many big carnivorous ants.

Traps around bush-grown stone ruins (1) and stone wall (2) caught 3 Abrodon boliviensis, 2 long-tailed Oryzomyzus, and 1 Phyllotis ~~olivaceus~~.



II-5. 25 mi. SSE Camatagua, 11,500 ft., Oct 8. Saguaro, thornbush, grass, cactus. This is the lower edge of ichu, upper edge of cactus thorn. along this road-wall caught Marmosa, Heliosperomys, ardinomys, and Phyllotis darwin



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IV-6. 25 mi. SSE Carrizago, 11,500 ft. Pillow pines, old and larger unwarped pines, in addition to vegetation of IV-5. andrewsi caught along this steep wall.



IV-7 25 mi. SSE Carrizago, 11,500 ft. Oct. 8. a few hundred yards from IV-5 and IV-6. Many Phyllostria darwini along this road wall.



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IV-8. 20 mi. SSE Carrizago, 8500 ft. Oct. 9. Scattered shrubs including thorn trees up to 10 ft and "creosote bush" up to 5 ft; jatropha, low opuntia, a chunkey sharp/pineapple. No saguaro or fuzzy cactus. Practically no grass, no bunch grass. Traps (3 arrows) caught Graomys and Phyllotis cuniculus in large numbers.



IV-9. 20 mi. SSE Carrizago, 8500 ft. as above, Phyllotis cuniculus caught at arrow.



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II-10 20 mi. SSE Carrizozo, 8500 ft., Oct. 9. Phyllotis capensis caught along stone wall.



II-12 Carrizozo, 8500 ft., Oct. 11. Slope similar to trap line that caught 3 Phyllotis capensis



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Oct. 7 Traps had 1 Ph. osvaldi, 2 long-tailed Oryzomys, and 3 abrodon boliviensis. The big, active ants present at almost every trap-site when I set the traps turn out to be highly carnivorous, but they left the corn meal bait alone. Much Mothura foraging in early a.m. Heavy dew.

Drove from 9 to 1; mostly curly bunch grass, as at overnight camp, up to summit, then good ichu and many reasomes from Sama north. Stopped early because it looked like goodphyllitic country and the road far ahead seemed to go through poor country. Here seems to be lower edge of ichu and upper edge of cactus-thorn. Two bags of traps set along road-retaining wall. Lots of square, fuzzy cactus, low Opuntia and other cacti, thorn bushes up to 5 ft high, yellow pineapples as at Tilcara, soil shells as at Tilcara, ichu, and assorted small shrubs. Reminiscent of Yarumá (which is not far away) but no espedra, reminiscent of Tilcara, <sup>8500</sup> but grasser. Many abrodon droppings

Evening clear & windy. Ran half the traps 8-9 and had 4 Hesperomys, 2 Ph. darwini, and 1 what looks like Ph. nogalensis, very much still alive in the trap. Shot 1 Marmosa in stone wall near big thorn bushes.

This locality about 25 mi. SSE Cañazú, 11,500 ft; Tarija. Actually there are a half dozen hills here that call themselves Ciengillas, but not one wolf.

Oct. 8. Much ratones. Five more Ph. nogalensis walking in all (there is considerable possibility that these are Andinomys, not nogalensis); a total of 4 Hesperomys; the 1 Marmosa shot; and 15 Ph. darwini, all of the nogalensis on the first part of the line, and most of the darwini around the corner on the second part.



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Skinned until 3 pm, then drove until 5, but 2 hour stuck in mud. Stopped at 8500 ft, probably approaching El Fuerte and Rio San Juan (again). Set 2 bags of traps along stone walls and rocky slopes.

SUN Oct. 9 This locality 20 mi. SSE Carrizal, 8500 ft; Tarjo. Guinea pigs here, and goats. In traps were Graomys and Phyllotis. One or two good Graomys, a few shabby ones (Ph. graomys?), and a lot of Darwinia? but longer-tailed than yesterday's. Total 20 mice, ~~other~~ <sup>=</sup> of genus Phyllotis & Graomys, nothing else. Luck may have put me down in a place where Ph. graomys is an intergrade or hybrid. In any event, I am in a place where I can't tell what I'm catching, so am going to stay another night to compound the confusions. 46 mice in 2 nights, 35 of them saved. Even under the mattress they begin to stir about 3 pm.

While running my traps in a.m. a truck broke two teeth out of its differential 100 yards from camp, so I had company all day who drank up all my water. Skinned until 3 pm, then towed the truck a mile down the road to a couple of huts under big molle trees. My locality is about 2 miles south of the bridge over the San Juan River, maybe 3 miles S of a Pueblo, Las Carreras. For vegetation see previous. Put out 1/2 bags of traps in about same locations as yesterday.

Oct. 10 This is goat country also. Fine red sand in the wash, stony hillside. Practically no grass, no bunch grass. Scattered shrubs including small thorn tree up to 10 ft, a creosote bush up to 5 ft, a small "fig" similar to that at Chosica, assorted other bushes, mostly thorny, low opuntia, but no saguaro or fuzzy cactus. A chunky Opuntia somewhat larger & more scrubby than the one



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at Ticasa but similarly sharp pointed. Schinus a mile down stream near the river.

13 undistinguishable Grewings - darwinii - wolffiamii - grewingkii in the traps. Skinned until 11, then drove north up the valley to Camargo at 4 p.m. Much of the quebrada is same as at camp, but bushes become smaller, sparser to the north, fewer thorn trees, more kinds of cacti appear, and the willow - leafed shrub. Very hot! Sun shade at noon  $35^{\circ}\text{C}$ , and the road too rough to go fast enough to create a breeze, at 5 p.m., cloudy,  $34^{\circ}$ ; and at 6 p.m.  $32^{\circ}$  after thunder & lightning in the hills nearby and a trace of rain here. ~~At~~ 8:30 p.m.,  $25^{\circ}$  and clear. It's not altiplano, but Phyllotis abundant!

Oct. 11 Camargo. Traps at 6 a.m., cloudy,  $19^{\circ}$ . 4 Phyllotis <sup>caprius</sup> in traps. This valley has quite a few avocados & grapes, the latter trained either on cana from trellises or up into severely pruned Schinus trees. as you climb up out of the north end of the valley vegetation gets richer. Cactus, thorn, brush, willow, Schinus and lots of rocks at 10,000 ft; should be good trapping. ~~Then a stretch of~~ Not until about 6000 ft. above Lima. Then a stretch of quebrada-boccharis, ~~then~~ richer, then rather bare stony altiplano. Stopped at 12,300 ft. <sup>40 km by road</sup> ~~about 30 km~~ short of Potosi. Here there are scattered bushes (many of them thorny), fuzzy cactus, and a little bit of bunch grass. This is about  $\frac{1}{2}$  mi. by road south of the Tufiyo-Camargo - Potosi fork. call 20 mi. S. Potosi.

Put out 2 bag of traps along brushy stone walls, mostly after dark.



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Oct. 12 Trophine, despite being set after dark, did very well.

6 Andinomys, 1 Marmos, 1 Alodon, and 13 Ph. darwini.

Andinomys has droppings more spherical than most rats, and in sheltered crannies there may be a cup or more of them. Guinea pig droppings here also, plus guinea pig skull.

Drove to Potosí where everything was closed because of fiesta. Ph. boliviensis near Potosí, ran across road. Then drove towards Oruro and skinned. Drove off after dark about 110 km. out of ~~Potosí~~ Potosí. Road goes through much good altiplano including ichu, Festuca, and tola. In some places equal amounts of Festuca & Stipa. all day on the Potosí-Oruro road and passed <sup>2</sup> ~~2~~ vehicles.

Oct. 13 <sup>th</sup> Off at dawn to Oruro, then about 60 km more toward La Paz. Rain at 5 pm just north of Oruro. About an hour east of Challapata is a short-grass pampa like Puna-Pichuni and with similar tree woods (not much fresh dit) and pale, similar trees. These less shy. I walked across one ~~the~~ wooded area and heard no barking. Similar trees also a few miles north of Challapata.

Oct. 14 La Paz at noon. Hassle with aduana and hunt for stable bolt, aduana says missing

Oct. 15. aduana says "missing". Went to see another aduana, and he fixed things up by 11:30. I paid a 10,000 bolivian fine for not reporting to the aduana in Oruro, and the aduana at Desayodero was suspended for 10 days for allowing me to enter Bolivia with faulty papers. Off for Puno, but had to wait overnight for the San Pedro ferry.



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Oct. 16 Copacabana - Yungujo - Puno. The number of aduanas, traffi controls, guardia civiles, immigraciones, vigilanzas, etc. in both Bolivia & Peru absolutely unbelievable. Their biggest import must be steel chain to stretch across roads at control stations. Slept at Puno gravel pit.

Oct. 17 All day getting car greased, shackled, and reclaiming my deposit. Slept 5 miles N. Puno.

Oct. 18 <sup>THE</sup> Lots of vicuñas at Hwy 100, but nowhere else. About same as when Carl was there. One herd of 35. Young still in herds. Stopped for about 2 hours at our trincher place, but saw & heard none. Slept between Solitorio - Salinas.

Oct. 19 Temp. -11° at 5:30 a.m. One ~~bus~~ broke frozen (from fording stream shortly before stopping). Removed wheel and built fire under it. Very rough road to arriaga then, miracul<sup>l</sup> paved to Camana. Passed through a couple of lomas - all "annual" flowers, no grass - but couldn't find a camping place with any vegetation. Stopped between Camana and Ataco. No traps.

The mountain in my guanaco habitat photo on previous trip are Chachani (+ nepe ampato), and the coastal valley photo is Rio Sihuas with Nevado Ampato.

Oct. 20 Saw a fox crossing the road toward beach yesterday in bare desert, and another today north of Ataco. At this place there is a cloud topped hill with bushy vegetation (and cows) about a half mile in from the ocean. The fox went down a cliff to the rocky shore line and foraged along the shore, sometimes getting wet from the spray. Had practically no hair on tail.

South of Ataco is a place with large flat-topped cacti, smaller cacti, flowers, and a few shrubs, plus lots of rocks. Looks



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good for Phyllotis.

North of Chala is some good foggy loma. just after you emerge into the sunshine, at the north end of it, the vegetation stops. at this point a strong east wind was blowing. a few miles further on a strong west wind was blowing sand dunes across the road.

Put out 1½ bags of traps on two hills of Tillandsia sticking out above almost pure desert. some lichens around base of hills, then mostly Tillandsia although a few succulents, a few small cacti, and a few flowers. No definite signs of mice although a few burrows plugged with lichen\* near the base of one of the hills. Found tracks. Snail shells. No birds seen. These hills are at km. 499 and 501 5 of Lina.

\* The lichen tend to collect in depressions, hence not plugged, also, they are probably droppings by both after arthropods. Found one fox dropping with only arthropoda.

Oct. 21 Morning foggy. Traps untouched. This stops 12 km. by road 5 of the Marcona crossroad. Loma vegetation stopped a few miles N of the crossroad and the sun came out above. Stopped at beach north of Chinchas for cormorant & seabird skeletons, then north to our old camp 10 mi. N Canete, mighty little vegetation here. a few Tillandsia (90% dead), a few hair-rat cacti, and lichens. Put out 1½ bags of traps. Found Peromyscus skeleton on top of knoll.

Oct 22 Nothing in traps. Took train. Drove to Lina, then set a bag of traps at 1 mi. W Lurco (Dodge place) and some rat traps + 5 museum specimens at 1 mi. E. San Bartolome (Zuniga's place).



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Slept at Chosica.

Oct. 23 Traps at 1 mi. W Sucre had 1 mus., 3 Ph. andinus, 6 Ph. amplus,  
and 1 Zyma <sup>Oryzomys</sup> rat. Many sprung empties, probably by Zyma rats.

at 1 mi. E San Bartolomé, the 5 rat traps baited with bacon had 4 Zyma rats, 1 not sprung. Two of the rats badly eaten. The 5 museum specials baited with corn meal were all sprung & empty. This place must be alive with Zyma rats.

Skinning and big packing spree, then back to Chosica.

Oscoda is about a mile or so below San Bartolomé.

Oct. 25 "How high can mining go?" by H. H. Cooke, Jr. in Mining World [World Mining Section] 44-48, 71. August 1954 tells of a sulfur mine in N Chile (Aucanquilcha) 5 mi. S of the Bolivian border and 16 mi. W of Ollagvie, Chile. "The mine workings... reach about 20,200 feet in altitude."

"Minimum temperatures... at Aucanquilcha, minus 35°F. The maximum recorded at Aucanquilcha since 1913 is 36°F."

"Yareta" & the calorific value is 6,300 British Thermal Units per pound - half that of bituminous coal."

In Table No. 1 listed 50 mines <sup>16,000 ft or</sup> above and 5, all in N Chile, ~~at~~ 19,000 ft. or higher. Listed Tintipan as no 8. at 18,400 ft. 11 mines 18,000 ft. or higher

at Andebo, "... the mine camp, which is 17,500 <sup>ft</sup> ~~ft~~ higher, must be near man's living ceiling. Formerly the camp was a thousand feet higher, but the miners could not sleep well there and lost weight, so it was moved down to its present site. There the miners may play football after chewing on foot to the mine, working seven hours, and running down the mountains."



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Oct 26 Left with Koffke by train for San Bartolomé, then Zarata. We all looked out about an hour short of Zarata, so left train and went on to set traps and get water. Put out about 40 traps, mostly along the trail under rocks in the forest. Saw a weasel carrying a mouse, in a rock slide. Mrs Koffke shot it twice with 22 shot but didn't stop it.

Oct. 27 Zárate. Trap set 1 Phyllotis andium and 2 abudor. The forest is open enough in places so that there is dried grass (abudor) and brush (Phyllotis). The forest is on a steep south-facing slope and contains trees ~~up~~ more than 2 feet DBH. Most conspicuous are a big-leaved tree reminiscent of sycamore with bigger leaves and with green 45 cobher fruits ripening and a smaller tree with shape and foliage of lime oak and bark of madrone. About 3 other species of trees also. The woods are very dry now, but in the thicker parts there is heavy moss covering the trunks <sup>& branches</sup>, hanging lichen, and bromeliads. Many of the trees are topped by dried vines (but not llamas). In the thicker part of the woods are many big overhanging rocks. Stone walls have been built up under them and along side, forming caves for burial. Some of these have dozens of <sup>hummocks</sup> skeletons in them plus clouds of gnats. Trees > 1 foot DBH have grown up since the walls were made. The floor of the forest is open, leafy, with mulch. The Kophlers say that after the rains the floor is a mass of green & flowers and many of the tree crowns are invisible because of over vines.

Put out traps among the grave walls in forest behind  
(above) the camping place and also along the brushy bottoms of



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Dra. Koepcke at Zárate, Dept. of Lima



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Dr. Koford in the forest of Zárate



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Dra. and Dr. Kuepferle in the forest at Zárate



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San Bartolomé from the trail to Zárate



Dr. and Dra. Koefoed at Zárate



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a cliff above the trail between the forest and the spring to the west of the forest  $25 \pm$  traps altogether. comment point

Oct. 28 Two Phyllotis auduboni in the bushy line and 6 in the forest line. also 1 at the weasel place. ( Audubon in the forest line.

Put out a line of traps in bushy place near upper edge of forest, the bushes in clumps 6-12 ft tall, and another line in the gloomiest part of the forest. Dr. Koffler incapacitated all day by severe rheumatism. One bat flying <sup>early</sup> at a dusk and another under the trees after dark.

Oct. 29 Nothing caught in the gloomy part of the forest; one Microtus in the bushy line. Hunted birds with Mrs. Koffler. Bird fauna is a curious combination of alpines, brush, & forest species. Motacilla flava, Perisoreus, Circus, Parula, wild Pigeon, Heleobeta + Zaratornis, Synallaxis, Trochocercus, 8<sup>3</sup> kinds of lanius, etc. San condore twice. The Zaratornis are tree ~~top~~ top feeders & perchers. Song break-break-break - break getting more rapid at end. not repeated. Dr. Koffler in bed all day. Put out 25+ traps in woods behind camp.

Oct. 30 One Phyllotis auduboni in traps. The woods specimens look darker than the two from the bush east of the forest. Hunted birds to the spring east of forest and back, then off to San Bartolomé. 10 hours down, Dr. Koffler proceeding with caution and with great pain.

We collected at Zárate 4 Zaratornis and estimate that the total population of the forest was 15 individuals, all females. It is unlikely that the males live or visit at Zárate.



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The mammal fauna is poor. Mustela frenata seen,  
Phyllotis andium?; Absodon boliviensis?; + Microsyconyx?  
caught, probably olmeca tracks seen and bats flying. Some  
large rodent droppings seen near the bottom of a cliff and  
in a boulder slide may be microtus (Kolffsee bats seen  
and collected microtus in the Santa Embria valley as low  
as 2200 m). A few more species surely live there but the  
fauna is not a forest fauna. [ maras almost certainly here].

The forest has not been found by the forest species

Nov. 2 Lina. The Oregon geologist at the pension (Bernstein) says  
that a consulting geologist Willard C. Lacy from Univ of  
Arizona has studied the Carrizozo - Cerro Lina mounds  
and published a semi-popular article on them in  
"El Serrano" about Sept. or Oct. 1952.





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